The Builder.

VOL. LXVII. NO. 2705. DECEMBER 8, 1894.

ILLUSTRATIONS.

Church of St. Clement, Bradford, Yorks.—Mr. E. P. Warren, Architect ..... *Double-Page Ink-Photo.*
"One Ash," Loughbro.—Mr. Larner Sugden, F.R.I.B.A., Architect ..... *Double-Page Ink-Photo.*
"A Country Retreat."—Mr. A. N. Prentice, A.R.I.B.A., Architect ..... *Double-Page Photo-Litho.*
House at Beckenham.—Mr. Allan F. Vigers, Architect ..... *Single-Page Ink-Photo.*
House, near St. Albans.—Mr. Allan F. Vigers, Architect ..... *Single-Page Ink-Photo.*

Blocks in Text.

Sketches Illustrating Article on "Commercialism in Art" .... Page 407
Plan of St. Clement's Church, Bradford ..... „ 414
Plan, "One Ash" House, Loughborough ..... „ 415
Medallions from Stained Glass Windows, "One Ash" House.... ..... Page 416
Sketch of Window, "One Ash" House ..... „ 416
Plan, House near St. Albans ..... „ 416

CONTENTS.

Commercialism in Art 405
Notes 408
The Royal Institute of British Architects 409
Magazines and Reviews 412
The Sanitary Inspectors' Association 412
The London County Council 413
The Builders' Benevolent Institution 414
Competitions 414
Architectural Societies 414
Church of St. Clement, Bradford 415
"One Ash," Loughborough 415
A Country Retreat 415
House at Beckenham, and House near St. Albans 416
Books: Ordish's "Early London Theatres (in the Fields);" Statham's "The Changes in the London Building Law;" Spencer's "Crux Mundi, Cruces Christi, Nomen Domini;" Cotsworth's "The Direct Calculator;" Trade Notices 416
Ventilation 417
Tewkesbury Abbey 418
Stained Glass 418
Ball Room Floors 418
Iron Water Tanks 418
Student's Column: Details of Rural Water Supply.—XXIII. .. 418
Obituary 419
General Building News 419
Sanitary and Engineering News 420
Stained Glass and Decoration 420
Foreign and Colonial 420
Miscellaneous 420
Legal 421
Meetings 421
Recent Patents 422
Some Recent Sales of Property 422

Commercialism in Art.

ONE of the most recent charges brought against modern Art, and one often urged by artists themselves, is that it is degraded by money considerations; that architects, painters, sculptors, and others, instead of being carried away by enthusiasm, and working at their "Art for Art's sake," are always thinking about the pay they are going to receive, and act upon the strictly trade principle of "so much work for so much money." This has been called "commercialism," and we are told that it is the ruin of all Art, and that it is this detestable principle which makes the Art of our day so inferior to that of the Middle Ages. Speaking at the Church Congress recently held at Exeter, Mr. W. B. Richmond, in a very able paper, to which we have already referred, lamenting the commercialism of modern Art, pointed out that evidences of its existence were shown in ecclesiastical structures and their appurtenances.

"Carvings were made to order and run out cheaply from those in stock. A commercially-turned-out reredos was erected to a well-known pattern, bearing a considerable resemblance to a twelfth-cake. . . . The stained-glass window was a great fetish of the pious world, and there was a large trade for that commodity. It was of two kinds—the trade and the Art window—but granting that there were few notable exceptions, the one was pretty nearly as valueless as the other. Hundreds of both were turned out every year with machine-like precision and rapidity. In the place of robust design, full of meaning, and such manly work as the twelfth, thirteenth, fourteenth, fifteenth, and even sixteenth century artists made; we were asked now to accept mawkish sentiment. . . . "Weak and pretty saints, who would have flinched from the gridiron and become hysterical in the Roman amphitheatre. Even the sacred Central Figure of Christianity was too often misrepresented as a characterless, weak man, to whom no one would go for advice, much less worship.

"Let them go to Assisi, Santa Maria Novella, York, Tewkesbury, Rome, Verona, Orvieto, Wells, Venice, Lincoln, Exeter, and try to persuade themselves that the work here was designed by architects and carried out by the trade, they would fail to be persuaded."

Now, of course, there is a good deal of truth in what Mr. Richmond says. We all know the kind of reredos he describes; the mechanical-looking stained-glass window, the mawkish, sentimental saints, and the undignified and feeble representations of the Saviour. We acknowledge that these things are bad in Art and wretched in sentiment, but where we are not quite prepared to follow Mr. Richmond is in the suggestions that these are the outcome of "commercialism" in "*modern* Art," and the consequent conclusion that commercialism did *not* exist in ancient art.

If Mr. Richmond and the other gentlemen who have so severely denounced the "commercialism" of modern Art would define exactly what they mean by this new word "commercialism" in such a connexion, we should be better able to grapple with the question. Are we, for instance, to take Mr. Morris seriously when he tells us, in "News from Nowhere," that an artist ought not to expect to be paid for high-class Art work, but ought to consider himself sufficiently paid by the *pleasure* he derives from a noble work, and should only look for payment when he is doing what is disagreeable or repulsive? Does Mr. Morris himself act on that principle?

Mr. Morris, it is true, is depicting a state of society which never *has* existed and which never could possibly exist under any conditions or circumstances known to human experience—so that it is possible he may be indulging in a joke at the expense of his readers. But if we are to take the passage seriously, it appears to us that it would defeat the whole idea and theory held by the gentlemen of this school; because it is evident that if a man is not to be paid for his Art when he takes a pleasure in it, and *is* to be paid for it when it is repulsive, that Art which gives pleasure to its producers can only be practised by the artist who is in independent circumstances, or the rich amateur. Whereas the poor man, who *must* make money by his Art in order that he may live, and support those dependent on him, must only produce such Art as is repulsive to him. In other words, the rich man is to have a life of most pleasant occupation, and the poor man one of hateful toil, and this perfectly irrespective of the fact that the poor man may possess real genius, and the rich one be a mere pretender—an arrangement which, it seems to us, would render the world far worse than it is at present.

Nor can we see why a man should not be paid for good work because he takes a pleasure in it, for it is almost certain that the better a man's work the more pride or pleasure he will take in it—consequently, the purchaser obtains a far better article for his money, and if he gets that which is of higher value why should he not pay in proportion? Commercialism in some form or other *must* enter into all questions of Art. We see no reason whatever why ecclesiastical or religious Art should prove any exception to this rule, and we maintain that it never has done so from the earliest times. We believe that the universal principle of supply and demand, of so much work so much pay, although, at times, owing to human weakness, it may be abused and occasionally require readjusting, works better than any Utopian theory. And we maintain that Art, whether ecclesiastical or secular, has always been subject to this rule. If we want examples of this, take the account, given in the Scriptures, of the building of Solomon's Temple.

In the First Book of Kings, Chap. v., verse 6, Solomon, writing to Hiram, King of Tyre, addresses him as follows: "Now therefore command thou that they (Hiram's workmen) hew me trees out of Lebanon; and my servants shall be with thy servants, and unto thee will I give hire for thy servants according to all that thou shalt appoint." . . . And in verses 10 and 11: "So Hiram gave Solomon cedar trees and fir trees according to all his desire. And Solomon gave Hiram twenty thousand measures of wheat for food to his household, and twenty measures of pure oil: thus gave Solomon to Hiram year by year."

Again, in the Second Book of Chronicles, Chap. ii., verse 10:—

"And behold, I will give to thy servants, the hewers that cut timber, twenty thousand measures of beaten wheat, and twenty thousand measures of barley, and twenty thousand baths of wine, and twenty thousand baths of oil."

It may be advanced that these were "*mere workmen*," who, of course, must be subject to a commercial arrangement. But this was not altogether the case, because Hiram says, in verses 13, 14, and 15:—"And now I have sent a cunning man, endued

with understanding, of Huram my father's, the son of a woman of the daughters of Dan, and his father was a man of Tyre, skilful to work in gold, and in silver, in brass, in iron, in stone, and in timber, in purple, in blue, and in fine linen, and in crimson; also to grave any manner of graving, and to find out every device which shall be put to him, with thy cunning men, and with the cunning men of my lord David thy Father. Now therefore the wheat, and the barley, the oil, and the wine, which my lord hath spoken of, let him send unto his servants."

It is surely evident from this that distinctly *commercial* transactions took place.

In the Middle Ages we find the same commercial arrangements connected with Art. Mr. Richmond speaks of "commercially-turned-out reredoses." Well, they evidently had such things in the Middle Ages. We give sketches of two reredoses (fig. 1), one in the Church of Xanten, in Germany, and the other in St. Germain l'Auxerrois, at Paris. Now, if our readers will compare the carved portions of these two works, it will be noticed that they are identical, undoubtedly worked from the same design. The omission of a canopy between the upper subjects in the central compartment is a very peculiar arrangement, yet we find it in both. The peculiar treatment of the lowest canopy is also identical. We also find, at Bruges and Roermond, carved wooden reredoses of similar design, also at St. Denis and Herenthals—in fact, there is so decided a similarity between many of these Flemish reredoses that there can be no doubt they were all made in one "shop," kept in stock, and were simply "commercially-turned-out reredoses." We grant that these old reredoses are beautiful works, and that the modern reredos described by Mr. Richmond is not beautiful, but we deny that commercialism has anything to do with the question. In old stained glass it is by no means uncommon to find the same cartoon used, reversed, to represent two different saints or angels.

In a cast-iron stove at Coburg (fig. 2), dated 1505, moulds have been re-used which were certainly not made for this stove, as the panels do not fit in or enter properly into the composition.

Then, again, we have frequent examples of "cheeseparing" in the Middle Ages. The nave of St. Alban's Abbey is a well-known example, where bases for shafts and small columns have been provided, but the columns, shafts, and mouldings have been omitted, as the work went on, in order to cheapen the building. One of the most interesting specimens, however, is in the beautiful north-west tower of the cathedral of Bamberg (fig. 3), which is so remarkable from the fact that it is certainly the finest example of pure first-pointed work in South Germany, and bears such a singular likeness to the towers of Laon Cathedral, that there must be some relationship between the two, though they are certainly not the work of the same architect, because, although slightly later in date, Bamberg retains more Romanesque feeling than Laon. (The Bamberg towers date, according to Kügler, from about 1274.) The way in which the economy was effected can be best understood from our sketch, where it will be noticed that a gorgeous arrangement of shafted arcading was proposed, but cheapened out of existence.

In the little cloister of Old St. Paul's the same economical changes were carried out. The ruins discovered by Mr. Penrose some years back show that an extremely elaborate design was started about the end of the fourteenth century, with most intricate sets of shafts and mouldings (fig. 4), but before the building had risen three feet out of the ground, economical ideas gained the day, and the shafts were omitted, the elaborate suits of mouldings left out, and Reigate stone substituted for Purbeck marble.

At one of the very cathedrals which Mr. Richmond mentions, and in which he says people would fail to be convinced that the work was carried out by men working under an architect, there is in existence a kind of agreement with the "Magister Operum" or "Cementarius," in which he makes a condition that the coats supplied him as part of his pay shall not be of a material which we may describe by the modern word "shoddy." And Mr. Street, in his "Spain," gives numerous extracts from the chapter rôles of the noble cathedrals of that country, showing distinctly that they were erected under regular contracts or agreements between the ecclesiastical authorities and the architects. For instance, at Barcelona, the authorities determined to employ the services of an architect named Jayme Fabre. Jayme Fabre was at the time erecting the great church for the Dominicans at Palma, and he did not wish to give up this work, so a most carefully-worded document was drawn out stating not only the salary he was to be paid for his work at Barcelona (eighteen sueldos a week), but that his voyage to Barcelona and back were also to be defrayed by the Chapter, that a house was to be provided for him, and clothes for himself and children. There appears to have been a dispute about the number of hats provided. In fact, the whole affair was most distinctly a business transaction. Two architects from Narbonne were employed in the rebuilding of the Cathedral of Gerona, with the understanding that they were to receive 150 sueldos a-quarter, and to come from Narbonne to Gerona six times a-year. These agreements date from the commencement of the fourteenth century, 1317-1339, and refer to the two finest fourteenth-century churches in Spain, works which, for romantic, poetical, and religious feeling, are unsurpassed by any buildings in Europe.

There is also a document, quoted by Mr. Street, in which Rodrigo de Houtenôn, the architect of the Cathedral of Segovia, agrees to build the tower and nave of a church at Valadolid, *according to his plan*, for a specified sum of money. Nor are these kind of transactions in any way peculiar to Spain. For we find at York William de Horton agreeing to receive 2s. 6d. per week, a premium of 10*l.* a-year, and a house for work he was carrying on at the cathedral; and he stipulates that he shall be allowed to undertake other works. At Exeter Master Roger received 1*l.* 10s. per quarter, and at St. Stephen's Chapel, Westminster, the most complete accounts exist of the payment made, not only to the architect—Master Thomas of Canterbury—but to the masons whom he directed and to the painters who covered the walls of that exquisite chapel with pictures; and here we notice that the painters were not allowed a free hand to do what they liked, but that a certain Master Hugh de St. Albans was set over them and directed them; for while we find the painters spoken of as "painting ymages on the walls," Hugh is described as "disposing the works of the painters working on the disposition of the paintings" and "ordering (designing) the drawing for the painters," and of course we find Master Hugh paid one shilling a day, whereas the other painters receive 10d., 9d., 6d., and 5d. per day, according to their merits, the whole thing being arranged upon strictly commercial grounds. Then Mr. Richmond tells us to go and look at ancient churches and see whether we can possibly convince ourselves "that they were designed by architects, carried out by the trade." Well, we do not need to be convinced upon the subject, because we have documentary evidence of the fact. Mr. Street, who gave special study to this point, says in his remarks upon the position of architects,* "In these days of doubt and perplexity as to what is true in Art, it is at least a comfort to find that one may go on heartily with one's work with the honest conviction that the position one (an architect) occupies may be, if he chooses to make it so, as nearly as possible the same as that occupied by the artists of the Middle Ages. So that, as it was open to them—often with small means, and in spite of many difficulties—to achieve very great works of lasting architectural merit, the time may come when, if we do our work with equal zeal, equal artistic feeling, and equal honesty, our own names will be added to the list which already includes those of artists who have earned the respect and affection of all whose everyday life is blessed with the sight of the true and beautiful works which in age after age they have left behind them as enduring monuments of their artistic skill."*

We cannot help noticing the fact that the more we find out about the way in which our ancient churches and cathedrals were built, the greater is the similarity between the Mediæval and the modern practice. Some years ago it used to be supposed that our cathedrals and churches were all designed by bishops and priests, but no proof of this has ever been discovered; in fact, every document which has been found, points distintly to the conclusion that our ancient architects were laymen, doing their work for pay, just as at the present day—even the famous William of Wykeham is known now not to have acted as architect to his buildings, and we know the name of his architect.

Can it for a moment be supposed that our great churches were erected by a number of workmen; one doing a bit here and another a bit there, leaving it to chance or fate to weld the thing into one harmonious whole. Can anyone who looks at the interior of Lincoln or Westminster, with their masterly combination of proportion and detail, believe that this is the result of mere accident, and that there was no master-mind at work in its "ordination" and "disposition"?† If one wants to see the kind of thing which a number of workmen, tinkering about without a director (call him "Cementarius," "Magister Operum," "Lathomatos Lapiscida," "Magister fabricæ," or "architect") will effect, let him go to West Walton Church, Norfolk, and see how the exquisite Early English church, evidently a severely architectural work as first erected, has been ruined, not artistically alone, but structurally also, by the fifteenth-century patchings of independent workmen, windows knocked through the "solid," or blocked where the original architect had planned them, responds cut away, buttresses removed, arches left with nothing to counteract their thrust, and consequent fractures, walls terribly out of perpendicular, principals of roofs cutting through the heads of windows, and other works showing how thoroughly one workman can ignore the work of everyone else when left to his own devices! No doubt the thing is picturesque enough, but at the expense of stability and artistic propriety. A ruin is no doubt often more *picturesque* than a cathedral, yet it would certainly be a sad disaster to Art if our cathedrals were converted into ruins. We are thoroughly convinced that no great architectural work has ever been accomplished without a paid master or director, in other words, an architect, whether he takes his 5 per cent. on the outlay, or, like the old "Cementarius," has a regular salary, with house, clothes, boots, and hats provided. If anything, the 5 per cent. seems to us to be the less commercial arrangement of the two.

Now, let us see what the Mediæval painters did. Were they above "commercialism"? did they thoroughly despise the "filthy lucre," and was it considered a disgrace in those times for an artist to consider his art as his means of support—(his business, in fact)?

We think we can bring two witnesses forward whom no one can regard as sordid, grasping creatures, the two noblest characters connected with the whole history of Art in the Middle Ages; men whose very

* Street's "Spain," p. 464.

* Page 465.

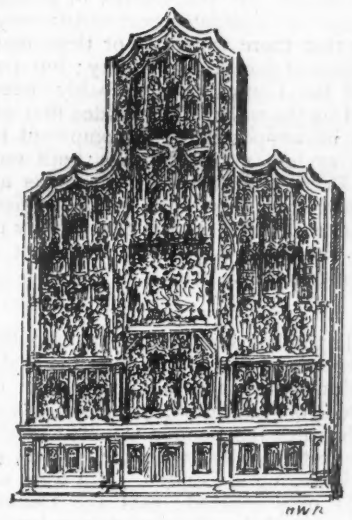
† "Ordinatio" and "dispositio" are frequently used to signify "design" in old documents.

names bespeak implicit admiration, Savonarola and Fra Beato Angelico. Well, what do they say upon the question of commercialism in Art?

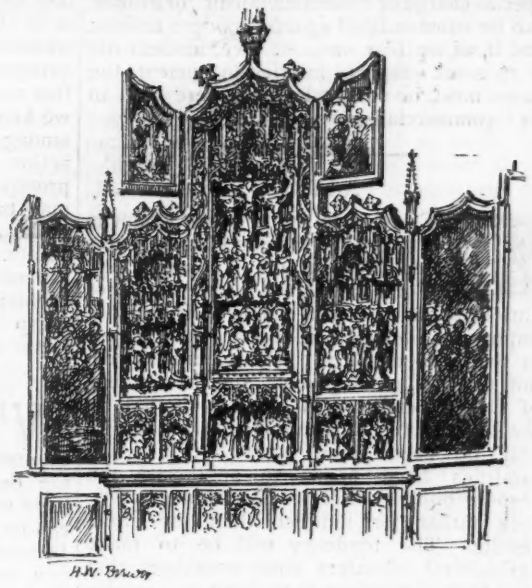
We will take Savonarola first. We quote from Crowe and Cavalcaselle's "History of Painting in Italy."*

"Savonarola thought that the exercise of Art was a *profitable* occupation for monks, and he was ambitious of introducing it as far as possible into his monastery for purposes of *revenue*. His persuasion induced miniaturists, painters, and sculptors to join the Dominicans . . . . and he was wont to say that independence being better than mendicity for an order claiming to preach the truth, it was *but right to lay the foundations of a better financial condition*."

Our next quotation is from Lord Lindsay's "History of Christian Art": "Fra Angelico had not been many months resident at Rome [where he was painting frescoes in the private chapel of Pope Nicholas] before the heat of the summer compelled him to retreat to the mountains. The rulers of Orvieto, anticipating this, and wishing to secure his services, had invited him to their



St. Germain l'Auxerrois, Paris.



Xanten.

Fig. 1.

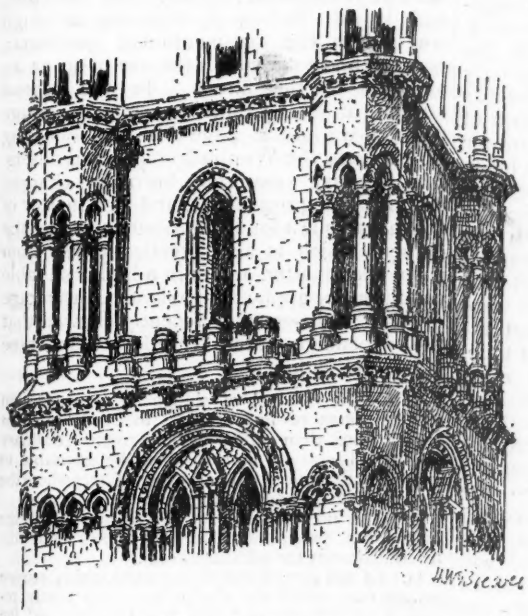


Fig. 3.—Bamberg.

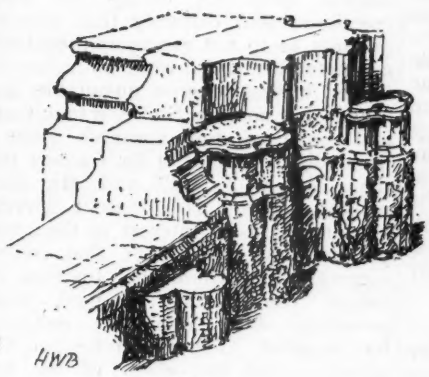


Fig. 4.

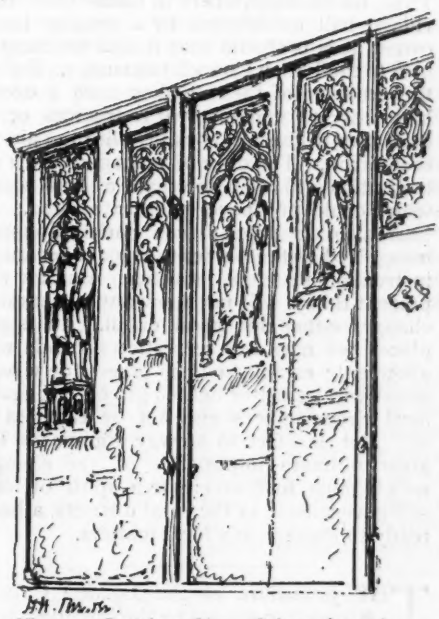


Fig. 2.—Cast-iron Stove, Coburg (1502).

romantic city. He entered into an agreement with them on June 14, 1447, to employ his summer recess of three months every year in painting the Chapel of St. Brizio, in the Cathedral, in fresco, for which he was to be paid 200 gold florins per annum, his pupil Benozzo 7 per month, and two assistants 3 each." Now here we find Savonarola entering into a regular commercial scheme, and Fra Angelico making a financial arrangement for his holidays. And we shall see that Savonarola's enterprise was something very like a shop or factory, for Crowe and Cavalcaselle tell us:† "Fra Bartolomeo was acknowledged as the head of the workshop belonging to St. Marco. . . Fra Bartolomeo's first care on resuming his duties in St. Marco was to reorganise the atelier. . . . It seems to have been agreed that the Syndic (or Procurator) should provide all current expenses, and that the net profit should be divided with Mariotto. . . . . A subdivision of interests also existed; some pictures were finished in the essential parts by Fra Bartolomeo; others were more exclusively Mariotto's; others, again, were the joint result of their labours with additional aid."

Now could there possibly be a more thoroughly commercial transaction than this? Here is a kind of Art Syndicate established in a monastery. Pictures are regularly manufactured for gain, and a shop kept for their disposal. These shops were called "Bottega," and in the official catalogue of the National Gallery, under "*Botticelli*," we read:—

"His extant works are numerous, though many bearing his name can only be considered *as having issued from his bottegæ*."

These quotations could be supplemented by hundreds of others, but we think we have given enough to show most distinctly that artists in the Middle Ages, just as artists in our own time, worked for money, and made business arrangements as are now done.

Our admiration for the great architects and painters of the Middle Ages is in no way shaken or influenced by finding out that they were good practical men of business, that they regarded their works in the light of commercial transactions; why should a painter or an architect be an improvident enthusiast? A thorough want of business qualifications is as bad for the client as the artist (in the case of an architect it is worse). If an artist neglects to take proper precautions, and ignores the rational means of getting paid for his work, he is doing an injustice to those who depend upon him, to his fellow craftsmen, and to Art in general. A man's power of painting, drawing, and designing is as much his means of money-making as the legal knowledge of the solicitor, the medical skill of the doctor, or the stock of the trader; and we cannot help thinking that to attempt to account for the shortcomings of modern Art by suggesting that they are caused by "commercialism," is a mistake, because this has always existed and must exist. The moment an artist is paid for his work, "commercialism" steps in, and if he does his work without asking pay, he ceases to be an "artist" in the generally-understood sense of the word, "one who lives by the practice of art," and becomes an "amateur," or one who takes up Art simply as an amusement.

If the word "commercialism" is used to signify an unscrupulous, grasping, and unfair method of carrying on the profession of Art, we maintain that these gentlemen are using a totally wrong word, or have rather coined a word which does not convey their meaning; instead of using the recognised English word "avarice." If by "Commercialism in Art" they mean "avarice" in Art we as heartily condemn it as they do, but if so, why coin a new word, of ambiguous meaning, where there is a genuine word in the language, which does express the idea perfectly? If it is intended to convey a charge of avarice against modern painters, architects, or sculptors, we emphatically repudiate the charge. The uphill struggle of a modern painter, the immense amount of theoretical study, and the scrupulous care in execution which goes to the making of modern pictures, alike contradict the assertion. With regard to the sculptor, surely he cannot be accused of avarice when even some of our very best sculptors find it difficult to recoup themselves the expenses which they are out of pocket for their works! And, with regard to architects, we have known innumerable cases in which modern architects have acted with great generosity. While insisting upon being paid according to professional rules, they have, especially in the case of churches in poor districts, made handsome and costly gifts—a pulpit, a font, a reredos, or a porch: and we could tell of cases where builders have done the same thing.

We do not believe for a moment that any

* Vol. iii., p. 432. † Vol. iii., p. 457.

special charge of "commercialism" or avarice can be substantiated against modern artists; and if, as we fear we must own, modern Art is in some respects inferior to ancient, the cause must be sought for elsewhere than in its "commercialism."

NOTES.

THE election of Parish Councils throughout England and Wales took place on Tuesday last. For the present we do not anticipate any great changes from this important alteration of Local Government in the rural districts. The Councils have not, after all, great powers, and the amount of their expenditure is carefully limited by the Legislature. The most important results will be seen some years hence, when localities have begun to appreciate the responsibilities of self-government. We look rather for indirect than for direct results. The tendency will be to make agricultural labourers more conscious that they have civic duties to perform, and to give localities more collective self-management. Thus, for example, where in future there is a village hall established by a wealthy landowner, it is probable that it will be handed over to the Parish Council to manage. Before the creation of these bodies such a donor had either to make it over to trustees or to look after it himself, possibly with the aid of the parson. The duty of managing such an institution will help to create a local spirit which could not have hitherto existed. In time, also, we hope to see Parish Councils recognised as the bodies to manage technical instruction in small localities. But for the present things will not show any remarkable change, either for good or ill. In some places we may see recreation grounds and allotments established; in others the village street will be better lighted; in others, again, local circumstances may not be changed at all. But this fact in no way diminishes the great ultimate importance of the change, which must in time create a spirit of local self-government in the rural districts, a body ready to manage any local matters.

THE procedure of the London County Council in regard to the intended new lunatic asylum is one which ought not to be passed over in these pages without special comment. The County Council advertised in August that they were prepared to appoint an architect to carry out the asylum in question at a salary of 800*l.* a year. Considering that an asylum would only take about three years to plan and build, and that the architect appointed was to relinquish all other practice during the time of his appointment, this might be called an exceedingly poor offer, and in fact looks as if it had been prompted mainly by a desire to study economy. However, about eighty architects responded to the application, some of them men whose names are well-known in the profession. A certain number (ten, we understand), were invited to be interviewed by the Asylums Committee, and some among these, who lived in the provinces, were summoned up to London more than once on the business. At the last meeting, as will be seen by our report in another column, the Council, after publicly advertising this offer and giving a number of architects a good deal of trouble in connexion with it, have dropped it, without any apology or explanation to those who answered their advertisement, and propose now to engage an architect, independently of their advertisement, at a fee of 10,000*l.* to carry out the work. Taking the usual cost of a large asylum as the basis, even the sum of 10,000*l.* is considerably less than the architect's commission on the usual terms would amount to; but it is at least a respectable sum, and if the Council can afford to offer that, why did they not offer it at first? And why did they not make up their minds as to their action, instead of beguiling a number of gentlemen into applying and then casting them off? It is a kind of proceeding by no means creditable to a public body. As to the assumed reason for the change of policy, that none of the candidates were satisfactory, we know that there were two or three men among them of exceptional ability; but the action of the Council has probably been prompted by the rather absurd idea that no man can be supposed to be competent to build an asylum unless he has built one before. Every man who is known as an asylum architect must have built his first asylum once; and innate practical ability to grasp a problem is just as important a factor as experience.

WE hope that we are not to take the speech of Mr. Marsland at the Institute on Monday night as a fair criterion of the degree of education, perception, and logic with which the London County Council can be expected to deal with the subject of District Surveying in London. If it were so, one could only conclude that the County Council had sunk hopelessly into the depths of mere and sheer vestrydom. The assertion of the speaker that the whole of the arguments adduced in the discussion were only on the basis of the consideration of the interests of the architects themselves only showed one of two things—either that he was incapable of understanding the real drift of what was said, or that he had little regard for truth, when there was a "point" to be made in a discussion. One alone among the District Surveyors who took part in the discussion gave any excuse for such an assertion; and certainly that gentleman's remarks as to not giving up their hold over appointments which were so valuable were in the highest degree unsuitable and ill-timed; but no other Surveyor took that tone, and none of the speakers were more decidedly in support of Mr. Carõe's position than Mr. E. T. Hall and Mr. Statham, neither of whom is a District Surveyor or has any personal interest in the question; yet we have no doubt that, when the communication from the Institute comes before the County Council, this idle nonsense about interested motives will be repeated. There can be no kind of question that the effect of the by-law prohibiting District Surveyors from practising, if persisted in, must be to place the regulation of building in London in the hands of a class of men far inferior, in professional standing and in independence of position, to the majority of those who held it previously to the enactment of the said by-law.

THE present time is the proper season for the planting of trees and shrubs. It is opportune, therefore, to appeal to those who have charge of the gardens in the squares of London to do something to improve the shrubberies which nearly always encircle the garden. It may be said that, as a general rule, these shrubberies consist of privets and sickly lilacs, and no attempt is made to cultivate any general collection of flowering or picturesquely foliated shrubs. With a little more care and a very trifling expenditure of money, these borders to the squares might be greatly improved. Such shrubs as the hardy purple-leaved plum, the fragrant mock-orange, the various kinds of retinaspora, now quite a common variety, the brilliant kerria, would all flourish in a London square. The list might be largely increased, but the point is that the shrubs of London are practically neglected, and a source of beauty and pleasure is thus lost. We are not asking that delicate specimens of rare shrubs should be planted in the London squares, only that a selection should be made from those which are to be found in every country garden to which any attention is paid. Hardy and beautiful plants should find a place in the now monotonous borders of the gardens of the London squares.

THE twenty-fifth Report on the experiments on filtration of sewage carried out by the Massachusetts State Board of Health has now been received in this country, and those interested in sewage filtration will find a vast amount of information spread over the fifty pages devoted to the question. The experiments have been continued for six years, and an adequate review of the results would extend over several pages. A large number of filters were employed in the experimental work, consisting of sand, gravel, polarite, and other materials, which were dosed with sewage in a great variety of ways. The summary and conclusions are as follows:—

"(1.) Of the three methods given for the removal of sludge—namely, 'sedimentation,' 'filtration,' and 'chemical precipitation'"—it is stated that filtration through coarse gravel at a very rapid rate, and with the aid of a current of air drawn through the gravel, gave the greatest purification. Furthermore, it has the advantage that it burns up the sludge to a large extent, and does not call for additional means for sludge disposal."

This method has been advocated in this country by Mr. Santo Crimp, as the result of twelve years' experience on a fairly large scale at Wimbledon; by Mr. Scott Moncrieff, and by Mr. Sidney R. Lowcock, although we believe the last-mentioned gentleman was the first to advocate the use of air as an auxiliary to the filters. In the second edition of Mr. Crimp's work on sewage disposal we find at page 260, the following reference to the Wimbledon straining filters. The filtering material becomes charged with nitrifying organisms, and as a matter of fact nitrates are found in abundance in the effluent, which is also practically free from suspended matter, and is in a highly suitable condition for application to land. An average of three analyses made recently showed that the suspended matters were less than three grains per gallon.

"(2.) The removal of sludge by sedimentation enables filters of fine material to be operated at higher rates than filters which receive ordinary sewage. It appears that it would be advisable to employ sedimentation in many large filters where the sewage is strong and the filters are not cultivated.

(3.) The aid received from the removal of sludge by chemical precipitation does not appear to be sufficient to justify the additional cost.

(4.) Of the three filters of fine sand which receive sewage from which the sludge has been partly removed by different methods, No. 12A, received the best purified sewage and gave the highest efficiency both from a qualitative and a quanitative point of view. This filter also is the only one capable of continuing to work at the rates given below.

(5.) Upon studying the several methods of obtaining a well-purified effluent from sewage, we find that the average rate of filtration for the combined area of Filters Nos. 12a, 15b, and 16b was 320,000 gallons per acre daily for six days in a week. This is the best result yet obtained with the experimental filters, and this system of double filtration, with the aid of a current of air, appears to be capable of application to the purification of sewage on a large scale."

The filter 12a referred to is a filter of fine sand, five ft. in depth, which received the sewage from filters 15b and 16b, both which were of coarse gravel. Reducing these figures to English measures, and taking the week to mean seven days, the rate of purification is about 228,000 gallons per acre per day, or about forty-seven gallons per square yard. The general tendency appears to be towards the conclusions of the Rivers Pollution Commissioners of this country.

AS we have recently had occasion to point out, the utilisation of water as a source of power is a subject which at the present day is exciting very general attention. The principal causes which have retarded the development of this kind of energy, are cheap coal and the great improvements made in the steam-engine during recent years. As a nation we are much behind those on the Continent of Europe in making use of water as a source of power, and, as stated by Mr. John Ritchie in an interesting paper he read some months ago before the Royal Scottish Society of Arts on this subject, in Switzerland, Southern France,

and the more mountainous districts of South Germany, most of the streams are used for industrial purposes. In the first-named country some eighty thousand horse-power is thus obtained, and this has already had a sensible effect on the quantity of coal imported. The general principles upon which the construction of turbines are based are now so well understood that these machines have become very efficient, and there is no doubt they will play a very important part in the near future in utilising the water-power of the world.

THE death of Sir Charles Newton removes one of the most remarkable names from the roll of English archæologists. The great achievement of his life was the discovery of the remains of the Mausoleum at Halicarnassus, the interest in which may be said to be still fresh, for it is only recently that one great room in the British Museum has been devoted to them, and their arrangement and the effort to extract the secret of the design of the whole building from the interesting but incomplete fragments, ranging from sculptured figures down to risers and treads of steps, is still in progress. Sir Charles Newton's reign of many years as keeper of the Greek Marbles at the British Museum was a very remarkable one, partly perhaps because he entered into office at a fortunate time, when the interest of the educated public in Greek archæology was on the increase, and when there were still large stores of unappropriated matter to draw upon. His knowledge of Greek remains, both in and out of museums, seemed to be complete and exhaustive; he knew where to put his finger, as it were, upon everything that was known to exist. We have heard it said that he harped too exclusively on his one string, but we never remember hearing him drag in Greek archæology unasked except once, when, at a country house, a beautiful Arab horse was brought out to be looked at, and ridden round a field bare-backed by his master, bare-headed, while Newton looked on delighted, saying, "It's just like the Elgin Marbles!"—as indeed it was, but for the trousers. But in general Newton was a remarkable and unusual combination of man of letters, *savant*, man of the world, and man of society, and was an admirable talker and teller of stories, generally permeated by a delicate flavour of cynicism.

THE Winter Exhibition of the "Society of Painters in Water Colours," opened this week, is characterised by a great variety of interest, though there may be no works to be singled out as specially remarkable. Mr. Alfred Hunt, however, has never better succeeded in giving the effect of light and atmosphere than in "Saltwick Bay" (160), a drawing which must be looked at and studied before all its beauty comes out. Like a good many of this artist's recent contributions to the Gallery it is a little disappointing through slightness of subject, not from any failure to carry out the effect aimed at. Mr. Hughes's large subject from "Straparola" (251), the girl and her snake sister, is so curious and weird as to compel attention, but its merit does not consist in more than careful and painstaking execution. Nude studies are rather rare at the Society's Gallery, and we may notice that there is a second one this year, Mr. Weguelin's "Pelagia" (360), a fine sketch of a woman standing on wet sand in front of the sea; a kind of marine idyll. Mr. Albert Goodwin is topographical rather than imaginative in his subjects, unless we may class his view of "Clovelly" (48) as a work of imagination, for it is certainly not like the real Clovelly, either in colour or scale. Let anyone who remembers the place recal the small stone pier or breakwater there, and look at the size and extent of it in Mr. Goodwin's representation. That does not affect the merit of the work in the purely artistic sense, but we do think that a picture purporting to represent a place should have a little more reality. One of the most interesting of Mr. Goodwin's drawings is a view of part of Wells Cathedral (246) by night, a fine study of effect, remarkable especially for the delicate manner in which the effect of the light in the interior of the cathedral, seen through the windows, is indicated. Mr. Hemy's boats and seas seem fresher and more breezy even than usual, notice especially "Three Men in a Boat" (259). Mrs. Allingham is at her best in "Cottage near Freshwater" (202); she contributes only two drawings. Among Mr. Eyre Walker's numerous and always fine landscapes "In Winter" (95), a snow scene, is exceptionally striking; "An Autumn Afternoon" (239) is also a beautiful work. Mr. Phillip's broad and powerful style is better suited perhaps to his favourite class of subject, a great hill filling the picture—see the "Black Craig of Talnoby" (58) and the remarkable look of aërial space over the shoulder of the hill—than to more extended and detailed views such as that "On the Argyllshire Coast" (230), which seems a little bald in treatment. This, however, is at all events a wholesome contrast to the niggling realistic style of some prominent members of the older school. Miss Rose Barton, a comparatively new member, whose small shipping scenes we admired at the Dudley Gallery some little time since, will be an acquisition to the Gallery if she does not make the mistake of attempting too many things at once; she exhibits one shipping subject (69), two idyllic subjects of landscape and figures, one of which (50) is remarkably suggestive, though the drawing of the figure is not over good, and a picture of "Cromwell Road" (328) which is a very successful but too palpable imitation of Mr. Herbert Marshall. However, Miss Barton, who hails from Dublin, is an artist we shall hear more of. Mr. Tom Lloyd contents himself with comparatively small works, with his usual fine harmony of colour, though with little subject. Among other works to be named are Mr. Herbert Marshall's "Chelsea" (4); Mr. Gregory's two views of Chartres, 76 and 200 (the first of which is from exactly the same point of view as Mr. Pennell's view of Chartres published in the *Builder* for January 7, 1893); various small sketches of scenes by Mr. Walter Crane, which are hard in style but have a certain individuality; Mr. Alfred Fripp's powerful sketch of the Campagna from the Via Appia (213), very unlike his usual style; Mr. Cuthbert Rigby's "River Brathay" (249); Mr. Hughes's "Study in Silver Point" (304); Mr. Herbert Marshall's "Norwich" (311), and Professor Herkomer's portrait of Mrs. Hubert Herkomer (344). Among specially architectural subjects are Mr. Rooke's "Sculpture on the West Porch of Chartres" (9), a very carefully executed piece of architectural drawing; Mr. Allan's "Goes, Holland" (19), *not* carefully executed in detail, and the gazabo on the central building out of perspective; Mr. Hodson "Piazza d' Erbe, Verona" (60); Mr. Thorne Waite's "Enkhuisen" (98); Mr. S. G. Evans's "Bamburgh" (138); Mr. Goodall's "Church of San Giovanni et Paolo, Venice" (223); and Mr. Rooke's "Carving on the House of the Sulmon," Chartres (284).

SEVERAL works of importance by Mr. A. Bruce Joy, the sculptor, have been on view during the last week, at his studio in West Kensington. Of these we may mention the statue, ten ft. six in. in height, of Mr. Oliver Heywood, which forms a companion to the sculptor's statue of Mr. John Bright, and which is to stand in front of the Manchester Town Hall. Mr. Heywood is represented standing in an easy attitude, and the pose of the head is well treated. Modern garb certainly does not lend itself to sculpture treatment, but if we must have it we doubt if it can be treated more naturally than we here find it. The statue of Mr. Whitley, M.P., which is to be placed in St. George's Hall, Liverpool, is seven ft. in height, being for an internal position, and of necessity in keeping with the scale of the surroundings. The general treatment is somewhat similar to the last, the figure standing restfully with the weight on one leg, and with the trousers—the *bête-noire* of modern sculptors—so managed as to fall in folds, which help rather than detract from the anatomy of the legs. The memorial of Professor Adams, which is to be placed in Westminster Abbey, consists of a medallion about one ft. six in. in diameter, and shows with graceful and refined handling the characteristic contour of the discoverer of Neptune. It is probably in these medallion portraits that modern portrait sculpture is most successful. The bust of the same subject for St. John's College, Cambridge, is also well conceived, while the memorial to Sir Robert Montgomery, to be placed in St. Paul's Cathedral, takes the form of a medallion about one ft. three in. in diameter, the features being executed with careful and delicate gradation. The bust of Chauncey Depew, the American orator, is executed with considerable vigour, the strongly-marked features lending themselves well to a characteristic and striking likeness.

APROPOS of the "New Woman" movement, the following extract from Millar's papers on the Castles of Forfarshire is interesting. Amongst the records of the cost of painting the chapel, dining-room, hall, and bedchambers of Glamis Castle in 1688, is written:—"Besides De Witt there were two English woemen, Mistris Moreis and her sister, *house-painters*, who have been a considerable time here." (See McGibbon and Ross on "Architecture of Scotland," Vol. ii., p. 123.) The name of these "English Woemen" is suggestive.

ONE of the claims which any eminent author has on posterity is that his name should be correctly spelt. We notice in "A. A. Notes" a mistake which we have come across in other quarters lately, as to the name of the author of the "History of Architecture," which is there spelt "Ferguson"; a mistake, perhaps, arising partly from the fact that there is a well-known living architect of that name. The author of the "History of Architecture" was "James Fergusson," with the double "s."

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING for business and the election of new members of the Royal Institute of British Architects was held on Monday last at 9, Conduit-street, Mr. F. C. Penrose, M.A. (President) in the chair.

Mr. W. D. Caröe then raised a question connected with the Statutory Examination for Certificates to act as District Surveyor, and referred to the "regulations" of the County Council making it prohibitory for a District Surveyor to practise as an architect. After introducing the subject, he said the London County Council might be sure that the architects were ready to go hand-in-hand with them in any action they might take to prevent any possibility of a recurrence of abuses possible under the old Act, always provided such action did not impair the quality of the men appointed to the posts. But the only abuse which the declaration would check would be the relegation of his duties, on the part of the District Surveyor, to his clerk. With regard to the question of emoluments, on this point he believed that Mr. Douglass Mathews could give some valuable evidence, as he had been over twenty years District Surveyor of Stoke Newington. For several years Mr. Douglass Mathews had received 500*l.* a year in fees, but these had fallen last year to 87*l.* He could only congratulate Mr. Mathews on the fact that he had not had to sign the declaration, and would point out to the London County Council, and to the Surveyors who were appointed under the declaration, that they were likely to have some difficult questions to settle. The London County Council had endeavoured to give a distinct legal sanction to the declaration by adding words to the clause em-

powering them to appoint, subject to such conditions as the Council should think fit. On the other hand, the amendment proposed by the Duke of Westminster, and which was supported by the Royal Institute of British Architects and other institutions, was thrown out. At the same time, Section 37 of the old Act had become Section 144 of the new Act, the District Surveyor being prevented practising in his own district, and acting as District Surveyor for any works under his private control. He had heard it said that the present action of the London County Council was illegal, but he would not express an opinion on the point of law, because the County Council had the power to make the signing of the declaration compulsory, and he had no desire to say that a man should not be bound by what he had signed. It was sufficient to say that in the past there had been a splendid roll of names of those who had acted as District Surveyors, and, where so many were still with them, it would be invidious to mention a long list. He would like, however, to mention Thos. Henry Wyatt and Professor Donaldson as the sort of men they would like to see occupying these important posts. He was afraid, however, that it would be impossible to get this type of men, unless they were permitted to have private practice. It would be impossible also to secure an efficient class of men, except they could get responsible and practising architects, who could deal with problems of construction and work under the Act, as well as supervise its operations. It would be an easy matter to make definite rules as to the status of the Assistant Clerk, if it was necessary to have one. There was no doubt that the District Surveyor should be prevented practising in his own district, whether on his own account, with a partner, or competing for works in that district. It was argued in the House of Commons that the lack of candidates for examination would cure itself; but could anything be more disastrous than to make bad laws and then leave them to be repealed by the necessity created by their badness? It had also been argued from the point of view of architects, that it was against their own interests that District Surveyors should be allowed to practise, but it was desirable that the Surveyors should be in touch with the practice of architecture. Nothing would be gained by this discussion if they got into opposition with the London County Council, who had the power to take the examination out of their hands if they chose. Let them at least credit the County Council with a desire to improve the public service, and endeavour to point out as forcibly as possible, but in a friendly spirit, that the action taken by them was, in the view of the members of the Institute, a mistake. He would, therefore, propose:—"That this meeting is most desirous of seeing the high status of the District Surveyors maintained, especially having regard to the increased responsibilities placed upon them by recent legislation."

The President said that he would like to state most emphatically his entire agreement with Mr. Caröe's last observation, that they should speak without any degree of acerbity of the London County Council. It was most probable that the points which they had brought forward, and which were not exactly in accordance with the views of those present, had been pressed, not from any wish to be nasty—if he might use that expression—but from ignorance of what was really the best and most politic course.

Professor Roger Smith said he had great pleasure in seconding the resolution proposed by Mr. Caröe, and in thanking him for taking the trouble to bring the subject before the members. His paper in the main had been devoted to advocating what many of them had advocated very strongly—the great desirability of, if possible, returning to the old system, which enabled the District Surveyor to act as a practising architect. Anyone who had had the opportunity of carrying on architectural work in a country town must be aware of the kind of official they had to fall in with. The officer of the local municipality, who devoted his whole time to the duties of his office, was not, generally speaking, so conversant with building, and so formed in his judgments upon architectural points, as the District Surveyors of London were. That was largely due to the fact, he believed, that the District Surveyor who had a greater or less share of architectural practice was more in touch with the necessities and the difficulties of building. It was of importance, therefore, that the officer who had the control of the work of the builder should be well acquainted with it. There was also a matter of importance to every architect, growing out of the point they were there to deal with more especially that evening. Shortly after he was appointed a District Surveyor, and when very young to the work, a large public building was being erected in his district. The builder became bankrupt, the architect died, and the proprietors, who were no doubt anxious that the work should be finished in a certain time, drove on, engaging their own foreman and workmen. For many weeks he was the only professional man connected with the undertaking, all kinds of points were submitted to him, and had he not had some little experience of the responsibilities of an architect he believed he would have been beaten altogether. Now the Building Act placed the conduct of public buildings in London very largely under the control of the District Surveyor, and his experience with regard to the public building he had just referred to might be the experience of any District Surveyor who might be appointed. On that ground, therefore, he was a great advocate for the maintenance of the connexion between practice and this appointment, which had hitherto always been maintained. With regard to the examination, the examiners tried to ascertain to some extent the practical qualifications of the candidate, as well as his knowledge of construction and theory. He was bound to say, referring to the suggestion made by Mr. Caröe in his paper, that if the District Surveyorship was to be thrown open to all the Associates of the Institute, they, or some other similar Board, ought to have the opportunity of testing the qualifications of the candidates, if they were to be in any way responsible. They were all indebted to Mr. Caröe for bringing the matter forward, and he hoped that members of the Institute would consider it as a matter which, not only as regards London, but also as regards England generally, was of great importance. London practice was to a large extent copied all over the country. The old London Building Act was the model on which the model by-laws were fixed, and the practice of London had filtered over the country. He believed that if the Institute could succeed in recovering for its members the position they occupied with regard to this office up to 1890, it was exceedingly likely that the same kind of thing might follow in the country.

Mr. Douglass Mathews said he agreed as to the undesirability of introducing anything like acerbity into the discussion, and he was glad to say that there had been nothing of the kind existing between the London County Council and the District Surveyors during the time the Building Act was before the House. He was sorry that this paper was not read before the Institute six or twelve months ago, for, if it had been, they would not have had to deplore the Clause, which was introduced into the Bill. It would be remembered that a petition was presented by the Institute to the Committee, suggesting various alterations, but that petition, for some reason, was never followed up. Counsel was never instructed, but if they had only been properly represented before the Committee all the opponents of the Bill would have been with them. The agent of the Duke of Westminster tried at the eleventh hour to get the Clause reconsidered and taken out, and he so far succeeded in having the Clause re-instated as on a former occasion. It was a great pity that the Institute did not follow up its petition, but the harm had been done. He hoped, however, that the London Council, after the statements that were made, would consider it desirable to withdraw the undertaking which they asked from the candidates for the District Surveyorship. He could fully appreciate that some District Surveyors trusted matters rather to their clerks, which was, of course, an undesirable thing. Speaking of the District Surveyors he came in contact with, he could say that there was no body of men who interested themselves more thoroughly in the difficulties of complying with the Act. The District Surveyors, as a rule, tried to overcome the difficulties presented to them by their architectural brethren, and a great deal of the ease under which the Act had been administered, was due to the desire to put forward as few obstacles as possible, and to assist those who might not have so much experience as themselves. As to the results of the examination, he was not at all surprised; the only surprise he felt was that they had not a lower class of men offering themselves for the examination. No man with any degree of respect could undertake the office on the conditions offered by the London County Council. In many cases the incomes of District Surveyors had been reduced from 50 to 75 per cent., and few men would care to take an office, which was so exceedingly variable, while the inducements to a man with any aspirations were not enough. He hoped a resolution of this kind would be put forward to the London County Council, and they would be shown that there was really necessity for it.

Mr. T. H. Watson said it occurred to him that perhaps a committee of the Institute might consider the subject, and the conditions imposed on candidates, and so arrive at some practical way out of the difficulty.

Mr. H. H. Collins thought that the whole question lay with the London County Council, and not with the Institute. The District Surveyors naturally, in the crucial question which had arisen, had looked for protection, support, and assistance from the Institute, but Mr. Mathews had told them how far their expectations were in any way realised. In fact, it had been left to the Builders' Institute, to the Institute of Surveyors, and others to come and assist them. The District Surveyors' Association, with their modest funds, had assisted, while the Institute of Surveyors had expended 900*l.* to support the petition, and he thought they had considerable cause of complaint against the Institute, that they had been deserted in a case where they ought to have been backed up. They need not dwell on the fact that the action of the London County Council had reduced the number of applicants to zero. Nobody thought it worth their while, except some clerk or inferior man, to go in for the examination, with the prospect of starvation before him. It was absurd to suppose men of any education, position, and practice, could afford to take a District Surveyorship under the present condition of things. It had been his good fortune to have met gentlemen who occupied the presidential chair of the Institute, and it would be very disagreeable for such gentlemen to have to meet some jack-in-office, who had no authority of his own, but who must rush off to Spring-gardens before he could give an answer to a plain question. That was what the matter was coming to. The Act was a difficult one, which would puzzle generations of architects for some time to come, and would afford the courts opportunities of giving judicial interpretations. What they wanted was a body of men who had experience to advise in their own profession, and who could interpret rather the spirit than the absolute reading of the Act, such as they had had in the past—men who read between the lines, who were able to assist their brethren and cut off many of the angularities which new Acts continually presented. He hoped the London County Council would see the necessity for having educated men to fill the position—he meant men who were educated not only as architects, but in the ordinary sense of the word—men of the world, who were able to meet their fellow men, and make use of their intellect, even behind an Act of Parliament.

Mr. Benjamin Tabberer was sure the London County Council could have but one object in view—namely, to secure the best men to carry out the important duties of the office. He was certain, therefore, that the more they looked into the question the more they would see that the system they had adopted was not the one to secure this aim. He rejoiced that the question had been raised, and he hoped it would lead to further discussion and examination so that an alteration would be effected. He did not think they could have more eloquent statistics than those Mr. Caröe had prepared and displayed on the wall. It was evident that the inducements held out would not draw in men who were fitted to carry out the duties of the office.

Mr. H. H. Statham said he had not much to add to what had been said on the subject, beyond expressing his concurrence with the opinions put forward by Mr. Caröe in his paper, and he would only make one remark. He had some reason to think there was every likelihood of a recommendation, in the direction which had been pointed out that evening, being considered by the London County Council. He believed there was a very considerable party in the London County Council who were coming to the conclusion that their by-law was a mistake, and if a strong resolution was forwarded from the Institute, he thought it would probably receive every consideration, and perhaps be the one influence which would sway some of the waverers. They might see there was that sort of feeling on the County Council, from the fact that they had not attempted to incorporate the clause debarring surveyors from practising in the Act. When he read the Act he came to the rather hasty conclusion that they had abandoned it; and the by-law, though it had been passed, had, he believed, only been passed as a matter of business routine. He thought it would, therefore, probably be found—and he was speaking with some reason, from conversations he had with members of the County Council—

that there was every disposition to reconsider it, and that any recommendation from the Institute would have a chance of having weight. There was, therefore, all the more reason why they should take up a decided line.

Mr. Alexander Payne said he would like to make a practical suggestion to Mr. Caröe. The resolution hardly went far enough; it only stated that it was desirable that the status of the District Surveyor should be maintained. He believed the answer of the County Council would be that that was precisely what they wished to do, for they were really under the impression that by increasing the size of the district and debarring the Surveyor from practising, the status would thereby be increased. It was impossible for anybody who was not an architect and connected with building to see how detrimental the conditions imposed by the Council were to the position. He believed he was correct in saying that amongst the Surveyors who had been appointed since 1890, there was no man of great eminence as a practising architect before his appointment. He did not wish to say anything against his colleagues, but he thought it necessary to bring this forward. If the County Council wished to get a good class of men to take the office they must not be debarred from private practice, and he thought the resolution should be amended by saying that the District Surveyor should have this permission.

Mr. Chas. Foster Hayward said he was prepared to second such an amendment.

Mr. Bruce, L.C.C., remarked that he had come by invitation to hear Mr. Caröe's paper, but he had no qualification himself to speak on the matter. It was true that he was a member of the Sub-Committee who had charge of the Bill, but he had looked at it from entirely the point of view of the duties of the office. He was glad to hear what had been said from the point of view of Mr. Caröe and the District Surveyors they had heard that evening. In those matters, in which he was personally interested on the County Council, there was a case which, at first sight, would appear to be parallel, and where great advantage had accrued to London through the establishment of an arrangement such as this—he referred to the Medical Officers of Health. Undoubtedly there had been great advantage in the rule which was now so frequently adopted, that the Medical Officer of Health should not take private practice. In that case, the Districts were better looked after than they were, but there was this great difference, that the salary of the Medical Officer of Health was a permanent one, and did not depend on the amount of work he might have to do.

Mr. John Marsland said he had come there rather to listen than to take part in the discussion. As a member of the Building Act Committee, he was responsible to some extent for one of the regulations complained of. At the same time, he had listened to no argument why they should take that resolution off the books, except that it would be for the benefit of the Royal Institute of British Architects. That had been stated as the opinion of every gentleman who had spoken. They had not heard any opinion from members of the Institute, who were independent, nor from any of the younger members, who mignt hope to be District Surveyors as well as private practitioners. He was rather struck with the remark of Professor Smith, when he said that, when one had practised in a country town, one was surprised at the status of the men who acted as District Surveyors. That was the very reason why they should insist on the District Surveyor being a qualified man, and attending to his own duties. Very often he had had to meet the District Surveyor's clerk, when it would have been more satisfactory to have met the District Surveyor himself. Indeed, he knew there were some districts in London where the District Surveyor was never seen, except in a question of dispute, and that seemed to him a reason why the District Surveyor should do his own work, and not employ a clerk. The only way, it seemed to him, to remedy this, was by passing such a resolution. He ventured to state that, so far as appointments had been made since the alteration had been in effect, they had been as satisfactory as any which had been made before. For his own part he did not think he would have the opportunity of considering this matter again, for it was not his intention to come up for re-election on the Council, but he thought the Institute should support their recommendation when it came up, with some better arguments than he had heard that evening, if they wished it to be successful.

Mr. E. T. Hall said that reference had been made to the small number of younger members present that evening, but he was afraid the reason, to a large extent, was, that they, aspiring to be practising architects, had no interest in the subject. They must all agree with Mr. Marsland's view, that it was improper the District Surveyor should employ his clerk to do his work. At the same time, it should be remembered that the clerk was simply there by the courtesy of the architect and builder, to report to his principals, and if he took an improper position the only thing for the builder or architect to do was to ask him to leave the works. It had been said that they, as an Institute, should look after these appointments because they were valuable to the members. He hoped it would be repudiated that the Institute took so low a view of its public duty; for if the Institute said they were there to safeguard appointments for the benefit of the members, the sooner they ceased to be members the better. He presumed, in the action they had taken, they had been guided by far higher views. They had recognised that they were responsible to the public for matters appertaining to building law in London, and had endeavoured to sink their own interest in trying to get a good Building Act for the Metropolis. All who had been thrown into contact with the Building Act Committee of the London County Council knew that their earnest desire had been to make an improvement on the previous Act. They had been most desirous of listening to advice from those who could advise them; they had amongst themselves able men, who knew a great deal about building; and their desire had been, even in this regulation to which exception was taken, to improve the status of the District Surveyors. But the point of view from which they, as practising architects, approached the matter was, that the District Surveyor was a gentleman who, from his position, should act in many cases as a sort of judge of first instance. Now, under the new Act, increased responsibilities were thrown on the Surveyors, and among other things the fact that a public building must be constructed to the satisfaction of the District Surveyor. It might be the case that the County Council would erect a fine building, which would adorn London, and which might be in the district of a young District Surveyor, who had had no practice in designing such a building. Was it desirable, then, that a matter like this should be left to the discretion of a young man, who had simply passed his examination? He considered it desirable, on the contrary, that the District Surveyor should be a man who had passed through the fire of considerable practice before he took office. Such a man had often to deal with all sorts of intricate questions, and he would say, without the slightest reproach, that a young man could not have the experience which would entitle him to the weight he should possess in the administration of the Act. Their argument, therefore, was, that in the new responsibilities which were thrown on the new Surveyor under the Act, it was necessary to have a man of power, and it had been explained that in former times they had such men as Professor Donaldson, while, at the present time, they need not look far from that room to see eminent members of the profession who were District Surveyors. If this regulation, which said that men must not practise, were withdrawn, a better class of men would go in for the post. He thought that was the whole sum and substance of their argument, and that the difficulty might be met if the County Council could make some regulation stipulating that a man, before he became a District Surveyor, should have been in practice at least a given number of years. The examination he had to pass would test his qualifications, and the Council would receive, as it were, a diploma of his being able to undertake the grave responsibilities of his position. If the regulation could be amended somewhat in that way it would meet all the necessities of the case. He hoped Mr. Marsland would give them credit for the fact that they were seeking, not the interest of their members, but the capable administration of the Act.

Mr. Lacy W. Ridge remarked that, having had experience during the whole of the time covered by the placard on the wall as to the statutory examination, he felt he had one argument to put forward which was well worthy the consideration of the London County Council. The twenty-five men who had come up since the regulation was passed had not been at all on a level with the seventy-two men who had come up before. The table gave no idea as to the quality of the men, but he could safely say that since the break there had not been a single architect in any appreciable practice who had presented himself for examination. If he had done injustice to any who had passed by making that remark he hoped he would be forgiven, as the case might have slipped his memory. The impression left on his mind was that no practising architect had presented himself at this examination. He only wondered that the thing had not got wind, and that they had not had plenty of candidates of an inferior class—by which he meant the kind of men met with as local surveyors in country towns or districts. Anyone who had had work to do in country towns knew the extreme difficulty of dealing with men of that class. He admitted that in the large towns there might be surveyors quite on a level with the London District Surveyors, but that was not the case generally throughout the country. If they, then, in London were to have District Surveyors of the class he had referred to, it would be a misfortune of the greatest possible kind to building—a misfortune to them as architects, a misfortune to the public who built, and, ultimately, a misfortune and disgrace to the local authorities who brought this about.

Mr. B. Dicksee said that what they ought to do was not so much to find fault with the County Council and their regulation as to show them in what other way to attain their object. What the County Council were afraid of was not the want of capable men, but that they would not have men who attended to their duties. There was a clause in the 1855 Act, which was re-enacted in the new Act, stating that where a District Surveyor, through pressure of business or any other cause, was unable to carry out the work of the district, the County Council might appoint an Assistant Surveyor who would receive the fees for what he did. He thought this was done once or twice by the old Metropolitan Board, when a District Surveyor got very old, and the power still remained at the present time. There would not be the slightest objection to putting in the declaration that the District Surveyor personally should carry out the duties of his office, but as long as he did that he could not see why, if he had not signed the declaration, he should be debarred from carrying on any practice. He had signed the declaration, and he was willing to abide by it as long as it was in force; but he thought it would be wise if the County Council were to modify the regulation.

Mr. William Woodward bore testimony to the assistance given by the Royal Institute of British Architects in regard to this matter. Mr. Arthur Cates had also brought to bear, in connexion with the Surveyors' Institute, all the points which he would have brought to bear had he been asked to represent the Royal Institute.

Mr. W. Henry White said that the aim of the Institute should be to assist in every possible way in bringing up the status of the London District Surveyors. Mr. Hall had made an excellent suggestion, which could be borne in mind in any action which might accrue, and any recommendation which might be put forward in the County Council. He had never known a case where a District Surveyor was not accessible to anyone, if not at the moment, at any rate by an early appointment.

Mr. C. H. Brodie thought that the young men of the Royal Institute were being sat on, and without the slightest reason. They were first twitted that they had not come down in their hundreds to this meeting, but what interest had they in the question? Were they to come and condemn a policy which they did not feel the slightest interest in? And for this reason, was it worth the while of any one of them to take up the examination, and do their utmost to secure the position, for a salary of something like 87*l.* a year? It was all very well to say that the District Surveyor should attend to his own work, and no one would object to that, but as had been pointed out, he might not be able to do it all. Every architect employed assistants, and every business man did so in his business, but in the case of the District Surveyor the senior should be accessible.

Mr. Payne wished the resolution amended as follows: "That this meeting is most desirous of seeing the high status of District Surveyors maintained, by permitting them to practise privately as heretofore, under such restrictions as may be thought necessary, especially having regard to the increased responsibilities placed upon them by recent legislation."

Mr. Caröe said the reason why the resolution was put in the form in which it first appeared, was that they did not think they were the final body in the matter, and they did not wish to appear in any sense to dictate to the County Council. At the same time, there was no doubt that the cause of the falling off in the examina-

tion was due to the effects of this declaration. The members of the County Council would appreciate that they did not wish to dictate to them, and in that sense he was willing to accept the amendment. He was very sorry to hear Mr. Marsland affirm that they had not produced any evidence for the alterations they wished made. Mr. Marsland surely had not seen the table on the wall, or carefully listened to some of the arguments which had been brought forward, and he hoped, when he saw the discussion in print, he would reconsider the view he had taken. He was aware that the action of the Royal Institute had not been as strong as might have been desired, because they had not the funds for doing so. Mr. Cates did not give evidence, for the honourable reason that he was a member of the tribunal of appeal, and did not feel he ought to appear before the Committee on this special question. He (the speaker) appeared and gave evidence in the House of Commons Committee as a member of the Council of the Royal Institute, and he hoped, therefore, the District Surveyors would not feel so hardly against the Institute as they had felt that evening. The instance mentioned by Mr. Bruce, with respect to the Medical Officers, was on an entirely different footing, and he hoped the County Council would reconsider their determination.

The resolution, as amended, was then unanimously agreed to, and a vote of thanks to Mr. Carõe was carried.

Mr. Collins asked whether the resolution would be referred to the Council of the Institute, or remain a dead letter?

The President replied that the resolution must come before the Council of the Institute, who were bound to carry out the wishes of the general body. He further intimated that the next meeting would take place on Monday, 17th inst., when Professor Banister Fletcher would read a paper on "The London Building Act."

The proceedings then terminated.

MAGAZINES AND REVIEWS.*

The *Art Journal* opens with an article by Mr. Claude Phillips on "Delacroix," whose power and reputation, forgotten for awhile, are beginning to be remembered again now. Mr. Phillips's estimate of the artist, a very high one, though not without perception of his faults, is probably correct. He points out that the French painter's real powers can only be estimated by those who study him at the Louvre, or seek him out in the public monuments of Paris. In the succeeding article, on "Art and Mr. Whistler" (unsigned), we cannot at all concur, except as to the permanent persistence of Mr. Whistler's artistic style; for the rest, he appears to be praised exactly for the qualities, or some of them, which he has not. An article on ancient Cambodian art, by Mr. John Thomson, is of interest from an architectural point of view, and includes among its illustrations what the author states to be the first plan to scale which has been made of the Temple of Nakhon Wat. The number shows for a frontispiece an engraving of Sir J. Millais' "Little Miss Muffit."

The most important article in the *Studio* is one on "Eugène Grasset and Decorative Art in France," by M. Octave Uzanne. The numerous illustrations from Grasset's designs are of the highest degree of cleverness, let us say, rather than genius; their variety in decorative treatment and effect is, however, very remarkable. An article on Dinan by Miss Nancy Bell has some charming sketches by Mr. Arthur G. Bell. Among other articles is one on "Some Views on Photography, by a Painter." The writer, Mr. A. Hartley, takes an exceedingly just and sensible view of his subject, pointing out the real uses of photography to the artist and the danger from trusting too much to it, and summing up thus: "With the form of the flower we want something of its fragrance, with the form of the leaf something of its tremor, and with the bending of the reed something of the breeze before which it inclines; and these are things which the camera wots not of." A sentence which we commend to the notice of the people who get up "photographic salons" and pretend that they are artists. An illustration of "a new Belgian monument," that to Charles de Coster, by Mr. Charles Samuel, shows the monument to be a fine conception in spite of some rather tawdry *rococo* detail. It shows two bronze figures seated in a *laissez-faire* attitude, their feet hanging down, in a niche in the architectural erection which forms the framework of the design; a curious fancy, but certainly original and striking.

The *Antiquary* continues the articles on English glass-making in the sixteenth and seventeenth centuries, commenced in the last number. The other articles in the number are rather of antiquarian than architectural interest.

The Quest is a small magazine printed at the press of the Birmingham Guild of Handicraft, of which three numbers are to be issued annually. It is got up in the mock-Early-Renaissance style which has become a fashion in some publications professing of this kind, and in a decorative sense the print and make-up is very good of its kind, but the promoters of the magazine had better go in "Quest" of something better in the way of art than the ridiculous figure-drawing shown in the frontispiece, with heads about half the right size in comparison with the bodies.

In the *Engineering Magazine* (New York) Mr. G. M. R. Twose writes an article on "Uses of Terra-Cotta in Modern Buildings," some of the illustrations to which will be of interest to English architects as showing novelty in the decorative treatment of the material. The author rightly urges that it demands a perfectly different treatment from carved stone, and emphasises the point by an illustration of a doorway in Late Gothic style, labelled "Terra-cotta or Stone—Which?" It is a bad design, we may observe for either material, but certainly suggests stone.

In the *Atlantic Monthly* Mr. C. Howard Walker writes an article on suggestions on the architecture of schools. Without denying that practical planning, sanitation, and ventilation are the first points to be considered, he urges that these are not incompatible with good architecture, which is unduly neglected in school buildings, even in regard to so simple a source of effect as the grouping of windows. We gather from this that school architecture in the States receives less attention than in this country, where its picturesque side is certainly not neglected. The writer suggests, as the styles lending themselves best to school architecture, Elizabethan, Jacobean, and "actual Queen Anne, not the spurious American version." He also suggests the study of the architecture of some of the smaller French towns in Normandy and the Loire neighbourhood. Classic forms of architecture he considers too rigid for school buildings except in the case of very large schools, and where there is plenty of money to spend on architectural effect. There is nothing in the article which will be new to English architects, though apparently the considerations offered are supposed to be novel in America.

The *Nineteenth Century* includes a dual article on "New Sources of Electric Power," by Mr. B. H. Thwaite, C.E., and Mr. J. Munro, C.E. Mr. Thwaite propounds what appears a rather Utopian scheme for burning all coal on the coal-fields to produce electric power for transmission, instead of sending the coal about the country by rail; and Mr. Munro suggests a similar use, for Scotland, of the peat deposits on Rannock Moor, and other similar tracts of country.

The *National Review* includes an article by Mr. Claude Phillips on "The National Gallery," being mainly a criticism, evidencing a great deal of careful study, in regard to the artistic value of recent acquisitions to the Gallery, and the question as to the real authorship of some of them. It is an article worth the careful attention of all who are interested in our National collection. To the same number Miss Jekyll contributes an article on "House Decoration," characterised by much good sense and sound judgment, of which the keynote is the recommendation of simplicity and restraint. "Those who have practical experience in house decoration know how much easier it is to go wrong by doing too much than by doing too little. It is the commonest fault of the trade decorator. He will use three tints where one is better, and if left to himself is sure to over-do everything"; an opinion in which we entirely concur.

Under the title "A Threatened City," Mr. Rees Davies gives, in the *Fortnightly*, some account of his impressions of Tientsin and Pekin, which do not seem to have been agreeable. The first impression of Pekin at a distance and through a cloud of dust, is favourable, but inside "it is like other Chinese cities, a glorified village of one-story houses," with unpaved, ill-smelling streets and open sewers. The walls, built centuries ago, appear to be still worthy of remark.

In the *Gentleman's Magazine*, Mr. J. Beames deals with the sanitary condition of a typical Indian city; "Sanitary Struggles at Pankobil." There are many Pankobils, each characterised by its slimy wooden structures; its tanks for drinking-water supply, seldom or never cleaned, and the banks of which are covered with ordure; its miasma from rotting vegetable matter, &c. The community of themselves can do nothing, for they have no money to do it with; nor have they any belief in English sanitary ideas. It is not a local question, urges the writer, it is a sanitary danger to the world, and something should be done—he does not say what. But it is obvious that whatever is done must be by English means and English money.

Harper, like the other American magazines, is more occupied in December with readable articles for Christmas than with art (though why art should be out of place in a Christmas number we do not know), but Mr. Abbey's illustrations to the "Taming of the Shrew" are more successful than some others of his attempts to realise Shakespeare's characters; his "Petruchio" is capital.

In the *Century* Mr. Timothy Cole writes a brief but well-considered article on Van Dyck, as accompaniment to engravings from two of the Anglo-Dutch Masters' portraits. The same number contains a reproduction of a sketch of "The Adoration of the Shepherds," by M. Dagnan-Bouveret.

Scribner's Magazine contains a very appreciative and feelingly-written article on Mr. G. F. Watts, by Mr. Cosmo Monkhouse, with a number of fine illustrations of the painter's works. There is also an article by the late Mr. Hamerton, the last of a series he had contributed on twelve representative modern painters, which has a special interest on account of the recent death of its author. The artist treated of is M. Emile Friant, whose curious but highly original picture, "Cast Shadows," is illustrated as a frontispiece to the number.

In the *Essex Review* (quarterly) Mr. Chancellor contributes to his articles on Essex Churches a description and plan of All Saints', Rettendon.

The reprints of *Punch Pictures* continue to appear monthly, and quite maintain their interest.

* The object of these notes is to point out anything in the contents of the current magazines which is of special interest to our readers, with occasional brief criticisms on the views expressed in such articles. When a magazine which has been sent to us is not noticed, it is because that number contains nothing that it is within our province to comment upon.

THE SANITARY INSPECTORS' ASSOCIATION.

At the meeting of this Association, held at Carpenters' Hall, London-wall, on the 1st inst., Mr. F. H. Cheesewright read a paper on "The Economic Treatment and Disposal of Town Refuse." Mr. Thomas, Chairman of Council, presided. After glancing at some of the attempts to cope with the refuse question and the difficulty of finding a perfect solution of the problem, so important from the sanitarian's point of view, of disposing of all the refuse of a large town in such a manner as not only to extinguish one nuisance without creating another, but to effect the operation with, if possible, a margin of profit, the lecturer arrived at the conclusion that the attempts to produce a cremator capable of perfect combustion hitherto made in the great towns of this country had been failures of a more or less complete and costly description. He then laid before the meeting a description of the invention of a French engineer, known as the "Livet" furnace, which in using refuse as fuel was able to generate steam and to maintain it at a constant pressure. It was claimed for the furnace that while successfully cremating any substance containing carbon the generator would evaporate three pounds of water for every pound of refuse, and give a residuum of clinker amounting to 30 per cent. The leading peculiarity of the "Livet" system is the form of flue, the area of which increases as it nears the exit into the chimney, in order to utilise to the full the increasing density of the gases, while promoting a high velocity of the air passing through the furnace-bars, and effectually extracting all the heat from the retarded gases before they reach the chimney. The chimney-shaft carries out the same idea of expanding diameter, which, where the interior diameter at the base was 5 ft., would have a diameter of 6 ft. at the height of 100 ft. from the base. It is claimed as the result of careful experiments that a speed of draught of from 700 to 800 ft. per minute, when burning house refuse, is kept up through the fire-bars, resulting in a very high temperature being constantly maintained in the furnace. The power to cremate 33 lbs. of refuse per square foot of grate surface per hour had been demonstrated, and an installation similar to one at Halifax destroyed 12 tons per day under perfect conditions as to

non-emission of smoke, or the fine dust so often found a nuisance in former cremators, while evaporating water sufficient to produce steam to drive an engine of 180 h.-p. Figures were adduced to show that, comparing the experiments of Sir Lyon Playfair, under Admiralty instructions, and Mr. Lavington E. Fletcher, for the Lancashire and Cheshire Coal Association, made with Lancashire boilers, the "Livet" gave a much higher evaporation of water per pound of coal, consumed double the quantity of coal per foot of grate, and consumed a much greater quantity of air per pound of coal, than the Lancashire boiler in the most favourable tests. Among other remarkable calculations made was one showing that the combustion of 40,000 tons of rubbish per annum (about the capacity of the Halifax Cremator) on the "Livet" system, would raise 44 million gallons of water 100 ft. high every day (sufficient for over 2,000,000 inhabitants) at a cost of only 6s. 8d. for steam for every million gallons, against 16s. per million gallons, which was stated as the present cost with the best engines. The result of a six hours' test in another case, during which it is stated that neither smoke, dust, nor odour emanated from the chimney-stack 110 ft. high, gave 3,755 lbs. as the quantity of matter burnt, producing 4·59 lbs. of water evaporated for every pound of refuse actually burnt, the pressure maintained in the steam produced being 50 lbs. to the inch. The weight of clinker and ashes produced was 1,939 lbs. In concluding his paper the lecturer invited the Sanitary Inspectors to visit, at Monck-street, Westminster, a partial installation of the "Livet" system, which had been for some months past supplying steam for driving a mortar-mill, engineers' lathes, dynamos, &c., without costing a penny for fuel.

On the proposal of a vote of thanks, a discussion arose, in which the Chairman, Mr. Alexander (Shoreditch), Mr. Dee (Westminster), Mr. Tidman, C.E., and other members took part, several of the speakers expressing a preference, wherever it was practicable, for methods of refuse disposal like that in use at Liverpool, which consisted of sending it out to sea every day by special steamers that could rapidly dump it into the sea at a point from which it could never return.

A conference of members, which was of a private character, followed.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday at the County Hall, Spring Gardens, Sir John Hutton, Chairman, presiding.

Appointment of Architect for the Sixth Asylum.—The Asylums' Committee brought up the following adjourned report:—

"The Council on July 3 last instructed us that the cost of the new asylum (exclusive of site and furnishing) must not exceed 300,000*l.*, and that we were to engage 'an architect, to be paid by salary, and the necessary assistants to prepare the plans and supervise the erection of the proposed asylum.' To meet the Council's views, we invited by advertisement applications for this appointment, for which we offered a salary of 800*l.* per annum. Sixty-nine candidates responded, and their applications were carefully considered by the sub-committee, to whom we delegated the duty of submitting to us the names of ten selected candidates. These gentlemen were in due course seen by us, and we came to the conclusion that none were suitable in every respect for this very special and responsible post. Having failed to obtain an architect under such conditions, we feel it our duty to ask the Council to rescind its instruction to us in this matter. The provision of the new asylum is now becoming a matter of the greatest importance, and we think, as the speediest plan for obtaining this accommodation, the Council should agree to the engagement of an experienced architect on the understanding that the whole remuneration for his services shall be 10,000*l.* We have further to point out that we have made careful inquiries into the cost of asylum buildings, and we are now of opinion that an efficient modern institution for 2,000 patients cannot be built for 300,000*l.* We think the limit should be 175*l.* per bed—*i.e.*, 350,000*l.*, exclusive of site and equipment. We accordingly recommend—

'(*a*) That the latter part of the resolution of the Council of the 3rd July, 1894, as follows, be rescinded—

"That it be an instruction to the Committee that the cost (exclusive of site and furnishing) must not exceed 300 000*l.*, and that they do engage an architect, to be paid by salary, and the necessary assistants, to prepare the plans and supervise the erection of the proposed asylum."

(*b*) That, subject to an estimate being submitted by the Finance Committee, the Committee be authorised to expend a sum not exceeding 350,000*l.* in providing the new asylum (excluding cost of site and equipment), and that the Committee be now authorised to engage an architect experienced in asylum construction, to design and superintend the erection of the new asylum, on the understanding that his remuneration in lieu of all commission and charges shall be 10,000*l.*'"

Mr. Strong, in bringing up the Report, said that the Committee had endeavoured to obtain the services of an experienced man at a fixed salary of 800*l.* In answer to advertisements, some seventy candidates applied to the Committee, but after interviewing the best of the candidates selected, the Committee felt that they would not be justified in recommending any of them as architects for the new asylum. The Committee now proposed to engage an architect in the ordinary way. No doubt 10,000*l.* seemed a large sum of money to pay for his services, but they should remember that that sum would include payments to a large number of assistants—draughtsmen and others. In the course of his remarks, Mr. Strong, referring to the urgent need for the new asylum, said that last year there was an increase of 843 pauper lunatics.

Mr. McDougall said that he approved of the Council's instruction of July 3, but since he had been defeated in Committee, and as the new asylum was urgently needed, he would not press his opposition.

Mr. Beachcroft proposed to refer the recommendation back. He said that last year the Council decided to employ an architect at a salary in order that he might be under their control, so that they might be saved the extravagances that took place in connexion with Claybury Asylum. He believed that if the Council agreed to the Committee's present recommendation the cost of the asylum would eventually amount to 450,000*l.* It was not the duty of the Council to provide palatial establishments for the insane; their responsibility ceased when they had made the unfortunate patients reasonably comfortable.

Mr. Leon seconded the amendment.

Mr. Emden said that it would not be possible to carry out a work like the proposed hospital by any other than a thoroughly experienced architect, and no architect of such experience would be willing to accept a sum of 800*l.* a year for four or five years; for it would mean that he would have to give up his practice for that time, and that afterwards he would have no practice of his own.

After some further discussion the amendment was put and lost.

Mr. Doake proposed the addition of the words "Shall not exceed 10,000*l.*" in the last line of the recommendation.

This was accepted by the Chairman of the Committee, and the recommendation was then passed.

Tramway Purchase.—The Highways Committee recommended:—

"That in all agreements for leasing tramways on the north side of the Thames, acquired or to be acquired by the Council, provisions be inserted to ensure that the undertakings shall revert to the Council on December 31, 1900 (but giving power to the Council, but not to the lessee, to determine the agreement on, or at any time after, December 31, 1898, by three months' previous notice), by which date nearly all the principal tramway-lines on that side of the Thames will have come under the operation of the purchase clause of the Tramways Act, 1870; and that similar provisions be inserted in all agreements for leasing such tramways on the south side, the date of reversion to the Council being, however, in those cases December 31, 1903, instead of 1900."

Mr. Westacott moved to refer back the recommendation, contending that the Council had no right to bind its successors in such a matter.

The amendment was negatived, and the recommendation of the Committee agreed to.

Jobbing Work.—Paragraphs I. and II. of the Fire Brigade Committee's report were as follows:

"We have had before us accounts rendered by the Works Department in respect of work executed during the last financial year at various fire brigade stations. In the undermentioned cases the cost of the work has exceeded the estimates adopted by the Council:—

Station.	*Work.*	*Architect's estimate adopted by Council.*	*Excess.* £ s. d.
Blackheath	Painting, alterations, and repairs	£ 207	49 1 4
Tooley-street	Drainage	120	113 9 11
Bow	Painting and repairs	80	43 19 7
Chief station	Alterations, &c.	110	81 11 3
Hampstead	Repair of roof, &c.	65	14 6 1
Gt. Marlborough-st.	Repairs and painting	55	42 2 4
Bethnal Green	Ditto	60	19 3 10
Bishopsgate	Ditto	53	106 8 1
Brixton	Ditto	67	101 7 11
Battersea	Ditto	293	76 6 4

In the last case additional work of the value of 6*l.* was ordered, and the architect's estimate must therefore be increased by that amount. As regards the Brixton Station, the work charged for includes not only that estimated by the architect to cost 67*l.*, but also other work subsequently sanctioned by us, the cost of which the architect estimated would be 30*l.* The architect has reported his revised estimate of the whole of the work to be 94*l.* 19s. With respect to the remaining stations the architect reports in effect that he is unable to understand why the work has cost so much. We have been in communication with the Works Committee on the subject, and have discussed the matter with the architect and the manager of the Works Department. These officers, however, are at variance as regards the manner of interpreting the specifications, under which most of the work above mentioned was executed, and as the expenditure has actually been incurred we do not see what further can be done in the matter. We understand that a schedule of prices for jobbing work is being prepared, and it is hoped that when work is measured up and priced in accordance with such schedule the disparity between the architect's estimate and the cost of work will disappear."

"Among the accounts rendered by the Works Department are the following in respect of work sanctioned by us, the architect's estimate having been in each case below 50*l.*—

Station.	*Work.*	*Architect's estimate.* £.	*Cost of work.* £ s. d.
Chief station	Repairs	34	73 0 11
Scotland-yard	Painting	34	65 5 1
Camden Town	Alterations	37	80 16 9
Hackney	Provision of bath-room	27	57 14 5
Bow	Formation of coal cellars, and alterations	24	66 1 8

With regard to the work at the first three stations, the architect reports that he is unable to account for the excess, but in the other two cases he states that he is satisfied that his estimates were too low, and he has consequently increased them to 45*l.* and 42*l.* respectively."

The Empire Theatre.—The Theatres Committee brought up a report in reference to the alterations to be made at the Empire Theatre, which was adopted.

London Exhibitions, Limited.—The same Committee's report contained the following paragraph, which was agreed to:—

"We have considered five drawings, dated November 24, 1894, showing the internal arrangements of the auditorium building, now known as the Empress Theatre, at the London Exhibitions, Limited (formerly the National Exhibitions Buildings), Earl's Court. The drawings for the building itself were approved by the Council on January 30 last. The seating accommodation will be for 3,796 persons instead of for 5,100 persons as at first intended, as it is now proposed to only have one tier which will be divided into two parts by a barrier. Four staircases, each 6 ft. wide, will be provided for the use of persons using the upper division of the building, and they will deliver directly into the grounds. A stage which will run the whole length of the building is also shown. We recommend—

'That the five drawings, dated November 24, 1894, be approved, provided the construction of the trusses supporting the seating be carried out to the entire satisfaction of the District Surveyor, and that the works in connexion with the plans be commenced within six months.'"

Town Hall, Deptford.—It was agreed, on the recommendation of the Building Act Committee, to grant the application of Messrs. Murray & Foster, on behalf of the Vestry of Rotherhithe, for the consent of the Council to the erection of a town-hall on the north-east side of Lower-road, Deptford, at the corner of Neptune-street and also abutting upon Moodkee-street.

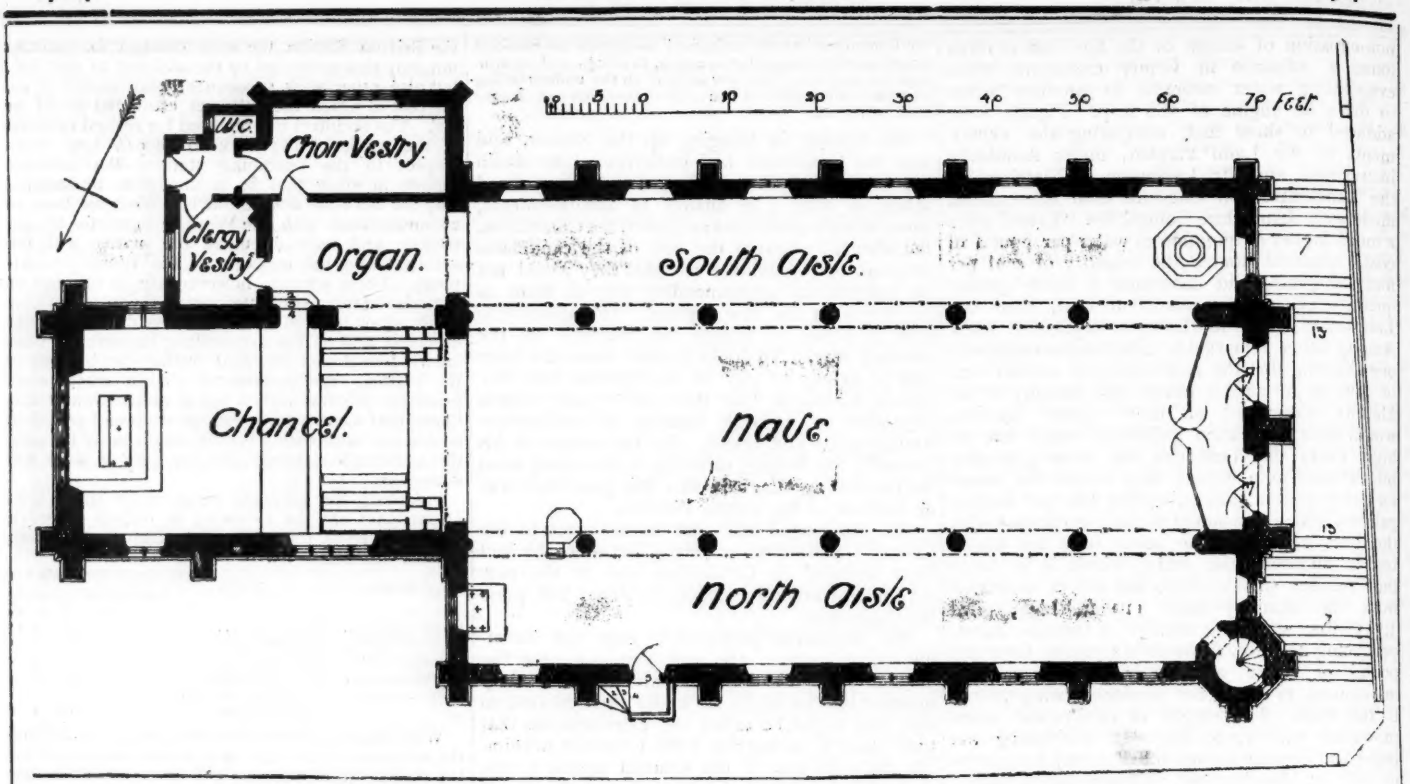
Artisans' Dwellings, St. John's Wood.—The application of Mr. A. R. Stenning, on behalf of the Manchester, Sheffield, and Lincolnshire Railway Company, for the consent of the Council to the erection of artisans' dwellings in Grove-road, St. John's Wood-road, and Cunningham-place was also granted.

The Council adjourned soon after 7 o'clock.

ARCHITECTURAL ASSOCIATION.—The drawings in illustration of Mr. E. O. Sachs's paper on Friday this week on "The Modern Theatre of the Continent," will be on view this (Saturday) morning at the rooms of the Institute of Architects, from 10 to 12.

THE INSTITUTION OF CIVIL ENGINEERS.—At the ordinary meeting of this Institution on the 4th inst. Sir Robert Rawlinson, K.C.B. (President), in the chair, it was announced that 21 Associate Members had been transferred to the class of Members, and that 102 candidates had been admitted as students. The first ballot for the Session 1894–5 resulted in the election of 8 Members, 130 Associate Members, and of 4 Associates, amongst the latter being Mr. Charles Barry, F.R.I.B.A., of Westminster.

CHANGE OF ADDRESS.—Mr. Henry J. Dowden, surveyor and land agent, has removed his offices from No. 314, Regent-street, W., to No. 8, Craig's-court, Charing Cross, S.W.



Church of St. Clement, Bradford.—Plan.

THE BUILDERS' BENEVOLENT INSTITUTION:

ELECTION OF PENSIONERS.

THE election of two pensioners on the funds this Charity took place on the 29th ult., at the offices of the Institution, 35, Southampton-row, Bloomsbury-square. Mr. Basil P. Ellis (President) occupied the chair, and, amongst other friends of the Institution, there were present Mr. Geo. Plucknett, J.P. (Treasurer), Mr. C. Bussell, Mr. J. T. Bolding, Mr. T. Stirling, Mr. T. Stirling, jun., Mr. T. F. Rider, Mr. C. B. New, Mr. R. Perkins, and Mr. J. W. Scrivener. There were two vacancies for pensions—viz., for one man and one woman, there being one male and seven female applicants.

At the close of the poll, the scrutineers (Messrs T. Stirling and T. F. Rider) announced the result, which was as follows:—Jack Taylor, Bermondsey, aged 62, master slater, 135 votes; Sarah Elizabeth Drake, Tylers' and Bricklayers' Almshouses, Balls Pond, aged 64, widow of Francis Drake, builder (seventh application), 3,273 votes; Mary Ann Healing, Curtain-road, aged 64, widow of Samuel Healing, builder (fifth application), 590 votes; Maria Elizabeth Powell, Camberwell, aged 61, widow of G. T. Powell, late a pensioner (second applicat on), 1,976 votes; Mary Ann Bowley, Tylers' Cottage, Balls Pond, aged 67 (first application), 569 votes; Eliza Ellis, James's-street, W., aged 75, widow of E. G. Ellis, builder (first application), 1,126 votes; and Ellen Batchelder, Carshalton, aged 61, widow of Chas. Batchelder, builder (first application), 580 votes. The successful candidates were therefore Jack Taylor and Sarah Elizabeth Drake.

Votes of thanks were passed to the chairman and the scrutineers, and the proceedings terminated.

COMPETITIONS.

BOARD SCHOOLS, STROUD GREEN.—In the competition for the new Stroud Green Board Schools for 1,235 children, Messrs. Mitchell & Butler's plans have been selected, and the work is to be proceeded with at once.

ARCHITECTURAL SOCIETIES.

NORTHERN ARCHITECTURAL ASSOCIATION.—The members of the Northern Architectural Association held a meeting in the Masonic Hall, Toward-road, Sunderland, on the 1st inst., when Mr. Frank Caws, F.R.I.B.A., read a paper, entitled "The Architect." In the absence of the President of the Association (Mr. Joseph Oswald), the chair was taken by Mr. William Milburn, of Sunderland. Mr. Caws having dealt with some aspects of the development of architecture, addressed himself to the youngest members especially. In the course of his remarks he said that before the young architect could hope to draw his dream, which was unseen, he must learn to correctly pourtray the dreams of other architects which had been petrified into solid substance and visible forms. No power of imagination, no strength of conception, could compensate the architect for weakness or non-proficiency in the art of drawing. The young architect should talk little and draw much. He should have no mercy on himself short of acquiring that absolute harmony and working understanding between eye and hand by which alone his thoughts could take shape and permanency. Having by severe self-criticism—an essential habit to the successful student—and by untiring dogged perseverance, become, at a comparatively early stage of his education, an accomplished draughtsman, a young architect during the same period of preliminary training must necessarily have become proficient in the science and practice of linear perspective. The genuine architect always, he said, thinks in perspective, while the self-styled architect thinks in mere plan or elevation. In order to transfer his dreams from paper to timber, brick, iron, and stone, the architect must further learn how to draw, so to speak, with the plane, trowel, hammer, and chisel, his pictures in the open air, by the hands of the carpenter, bricklayer, smith, and mason. To do this he must acquire practical and scientific knowledge. He must become a geometrician and mathematician. He must also become a man of business. The motive was sufficient. The student would come to understand that nothing short of perfect artist plus perfect engineer could constitute the perfect architect. A discussion followed, and the meeting closed with votes of thanks to Mr. Caws and the chairman.

GLASGOW ARCHITECTURAL ASSOCIATION.—The general monthly meeting of this Association was held in the Rooms, 114, West Campbell-street, on Tuesday evening, the President, Mr. A. N. Paterson, in the chair, when Mr. Charles J. Davidson read a paper on "The Planning of Farmhouses," being a continuation of the series of essays on planning contributed by members. Dividing the subject into three classes:—Sheep farms, dairy farms, and stock-rearing farms, the different requirements of each were explained in great detail. The buildings connected with sheep farms were few, and consist usually of a house for the farmer, with small barn, wool-house, and poultry-house. Dairy farms for the keeping and rearing of cows were more elaborate. The byre was the largest of the buildings, and along with the dairy and scullery formed the principal feature of the steading. In a stock-rearing farm the principal object was to provide for the accommodation and rearing of large numbers of cattle. The arable-land of such farms was cropped mainly for the purposes of fodder and bedding. In referring to the domestic arrangements, it was remarked that in no department of farm-planning was reform more urgently required than in the sleeping apartments appropriated to farm servants, which were, in a large number of cases, such as merited extreme reprobation, and were disgraceful to the farmers and their landlords. In the disposition and grouping of the various buildings the leading object to be arrived at in the arrangement of the plan was economy of time and labour in the performance of the work to be carried on. To this end the two main principles to be observed were: 1. That there should be an immediate connexion between the buildings and apartments whose usefulness depended on each other; and, 2. That houses used for analogous purposes should, as far as possible, be classified and arranged together. Treating of the architectural appearance of farmhouses, Mr. Davidson said that in some cases the whole steading could be arranged symmetrically; and where this was not attainable, the extended lines of buildings, the varying outline caused by different heights, and the numerous gables, seldom failed to give a certain degree of piquancy and picturesqueness. The paper was illustrated throughout by reference to a number of plans and diagrams hung upon the walls.

BIRMINGHAM MASTER-BUILDERS' ASSOCIATION.—The annual meeting of this Association was held on the 28th ult. at the offices, 17 and 19, Colmore-row, under the presidency of Mr. Thomas Barnsley. The annual report stated that the depression of trade referred to in the last annual report continued, but the progress of several large works in the city—notably the new General Hospital, the Technical Schools, and the railway extensions—had provided a fair amount of work for the operatives in several branches of the trade. The year had been an uneventful one, no matter of importance having disturbed the amicable relations existing between employers and employed. The committee had held the usual meetings during the year, and the standing committees, with the stonemasons and bricklayers, had met several times and satisfactorily disposed of minor disputes. The committee, after carefully considering the matter, decided not to give notice to the operatives of any alterations in existing rules. The same unwillingness to disturb the existing state of affairs appeared to have prevailed with the operatives, no notice having been received from any branch. The report was adopted, and Mr. T. Barnsley was re-elected President, Messrs. T. Rowbotham and R. Bulley vice-chairmen, Mr. George Twigg treasurer, and Mr. E. J. Bigwood secretary.

INDEPENDENT CARPENTERS' AND JOINERS' SOCIETY.—The Council of this Society ask us to state that they have no connexion with the "Free Labour Association," with which their Society has apparently been supposed to be in alliance.

MANCHESTER SHIP CANAL.—Messrs. Blacklock & Co, (Manchester), send us a useful and interesting map of the Ship Canal, accompanied with plans of the Manchester Docks connected with it, and sections of some of the principal basins and wharves, &c.

Illustrations.

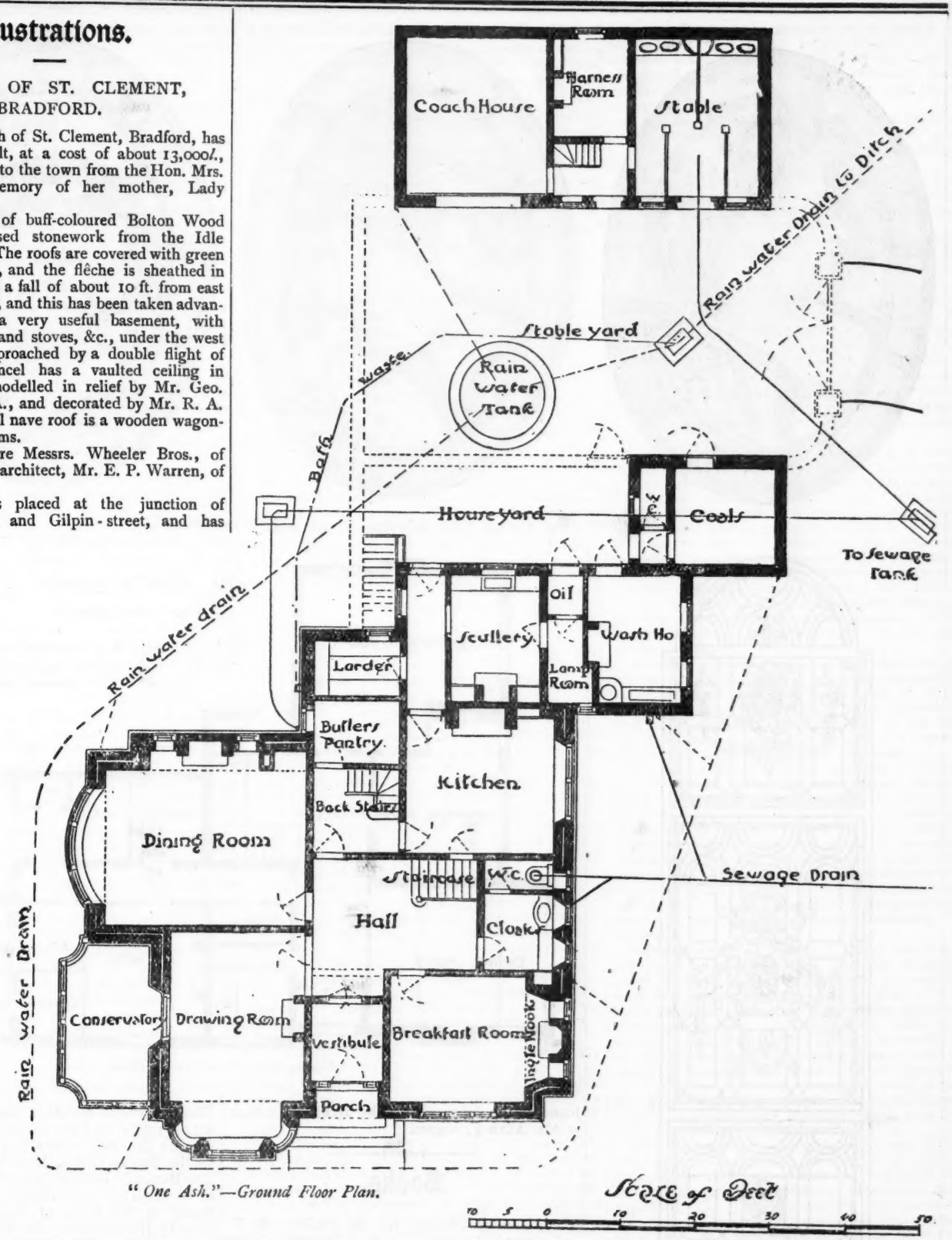
CHURCH OF ST. CLEMENT, BRADFORD.

THE Church of St. Clement, Bradford, has been built, at a cost of about 13,000*l.*, as a gift to the town from the Hon. Mrs. Whittuck, in memory of her mother, Lady Mountgarret.

The walls are of buff-coloured Bolton Wood stone, with dressed stonework from the Idle Moor quarries. The roofs are covered with green Buttermere slates, and the flêche is sheathed in copper. There is a fall of about 10 ft. from east to west in the site, and this has been taken advantage of to form a very useful basement, with heating chamber and stoves, &c., under the west end, which is approached by a double flight of steps. The chancel has a vaulted ceiling in fibrous plaster, modelled in relief by Mr. Geo. Frampton, A.R.A., and decorated by Mr. R. A. Bell. The internal nave roof is a wooden wagon-vault with tie-beams.

The builders are Messrs. Wheeler Bros., of Reading, and the architect, Mr. E. P. Warren, of Westminster.

The church is placed at the junction of Barkerend-street and Gilpin-street, and has accommodation for 540 in the nave and aisles and 30 in the choir.



"One Ash."—Ground Floor Plan.

"ONE ASH," LOUGHBOROUGH.

THIS house, nearing completion, is situated on the Leicester road from Loughborough to Quorn, and commands a fine view of Beacon Hill and the adjacent wooded country. It occupies a site of about 17 acres, through which a straight carriage-drive, planted to form an avenue, approaches the house. The garden, orchard, &c., will be laid out formally—not in the so-called landscape-gardening style.

The ground-story is faced with vari-coloured waste slabs from the neighbouring ancient Swithland slate quarries, no longer worked—through the craze for cheap Welsh slates by jerry or purely commercial builders. The upper story and minor parts are faced with Ellis & Partridge's (Leicester) 2½-in. Woodville sand stocks—an admirable brick—tuck pointed white.

The roofs are covered with Handford hand-made stout brinded roofing-tiles, and the stone used is brown Matlock, coated.

The fire-grates used are Teale's, Elsley's, and Carron "eighteenth century." The drawing-room overmantel is a bas-relief of the Poet and the Three Fair Dames *du Temps Jadis*, with the lines from Villon :—

Dictes-moy où, n'en quel païs
Est Flora, la belle Romaine ;
Archipiada, ne Thaïs
Qui fut sa cousine germaine ;
Echo parlant quand bruyet on maine
Dessus rivière ou sus estan,
Qui beaulté eut trop plus qu'humaine?
Mais où sont les neiges d'antan !

The three compartments of the staircase-window each contain a cartouche with emblematic head of Love, Peace, or War. These we illustrate from Mr. Ross Kean's cartoons. The Gateshead Stained Glass Company have executed this work.

The works have been carried out under the personal superintendence of the architect, Mr. Larner Sugden, of Leek, by Messrs. W. Moss & Son, builders, Loughborough. The heating apparatus is by Messrs. Haden & Son.

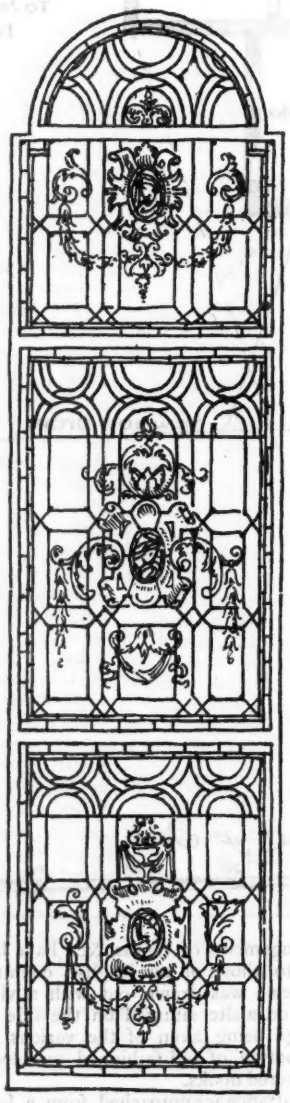
A COUNTRY RETREAT.

THIS building is modelled after the form of the famous palace of the Generalife, at Granada, with modifications to suit our northern climate, while the arrangements of rooms, &c., have been made similar to those of an English country house. The scheme was drawn out with a view to its erection on a site situated on the side of a hill, advantage being taken of the various slopes for the formation of old-fashioned terraced gardens and sheltered nooks.

The entrance is approached from a forecourt of sufficient size to permit carriages to draw up at the door. Another proposal was to glaze in the whole of the forecourt behind the covered gallery, connecting the entrance with the porter's-lodge, and with the addition of a central water-basin, surrounded with palms and flowers, to form a charming winter-garden. The materials to be used were common rubble, or rough stone-walls, coated with rough-cast, to be whitewashed on completion. The external timber-work was to be of teak, and the roofs covered with thick brown tiles. The estimated cost of the house by itself was 2,500*l.*, and with the addition of stabling, porter's-lodge, gardens, and terraces, 3,700*l.* On account of the rise in the ground to the back of the house, the billiard-room is four ft. above the level of the ground floor. The kitchen and offices are placed under the dining and reception-rooms.

A. N. PRENTICE.

Medallions from Stainea Glass Windows, "One Ash," Loughborough.



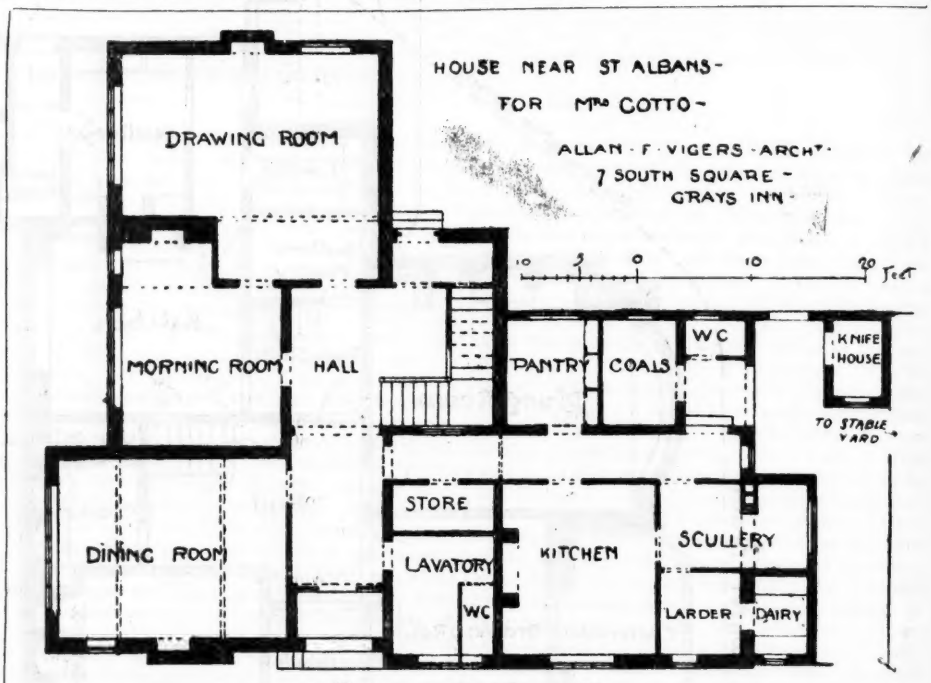
Window, "One Ash," Loughborough.

HOUSE AT BECKENHAM AND HOUSE NEAR ST. ALBANS.

We may take these two houses together, as they are designed by the same architect. The house "near St. Albans" is at London Colney, and has been built, at a cost of 2,400*l.*, of red brick and half-timber work.

That at Beckenham, not yet commenced, is also to be carried out in red brick, and with red tiling for the roofs.

We append a plan of the London Colney house; that of the Beckenham house will be found on the lithograph. The architect of both is Mr. Allan F. Vigers.



House, near St. Albans.—Plan.

Books.

Early London Theatres (in the Fields). By T. Fairman Ordish, F.S.A. London: Elliot Stock. 1894.

Though the author deals for the most part with matters that lie outside our province, his book, which should take a high rank of its kind, contains many out-of-the-way things that our readers will find very interesting. Take, for example, the structure and arrangements of the sixteenth-century theatres. The Theatre, the first erected in London, was built over Holywell Priory site, Shoreditch, of wood, in 1576, for James Burbage. Circular on plan, and fitted with scaffolding or benches about the arena, it stood open to the weather. They put a movable platform for the players, who entered, from behind the arras, into the arena when the latter was not wanted for displays of rope-dancing, vaulting, tumbling, &c., or exhibition of skill at sword-play or with quarter-staff. The Curtain, not far distant, seems to have been built of the same materials and after the same fashion, since it was called a cock-pit and the "wooden O." The "groundlings," who had no seats, paid 1d. each; occupants of the galleries and rooms or boxes paid higher prices. Those seats, and their names, are taken from the inn-yard interiors. The Curtain remained, it is believed, until the general suppression of play-houses in 1642-7, outliving its neighbour, the Theatre, whose materials were removed in the winter 1598-9 by Peter Street, carpenter, and his men, to Bankside, where they were put together for the famous Globe, destroyed by fire in 1613. The Bankside bear-gardens or amphitheatres are to be seen, not very clearly, in reduced copies, bound in this book, of Aggas's map, the plan done by Hoefnagel for Braun and Hogenburgh's work (1572), and Norden's map (1593). Norden entitles them "The Beare-howse" and "The play-howse" (the Rose); the former does not stand for the Hope, which was not built until 1613, in which year Gilbert Katherens and John Browne, of St. Saviour's, bricklayer, covenanted to make

> one game place or plaie-house, a bull-house, and a stable neere or uppon the place whereon the game place of the beare-garden now or latlie stoode.

The Hope, erected for Henslowe and Meade, is familiar to us as one of the two octagonal houses—the other is The Swan, built in Old Paris Garden for Langley not before 1594—of Visscher's riverside view, 1616. The contract twice stipulates that The Hope shall be like The Swan "in all things." We abbreviate some of its particulars:—

> Two staircases without and adjoining play-house. Heavens (our modern "flies") to have no supports on the stage: gutters of lead for same. Two boxes in lowermost storey, "fit and decent for gentlemen to sitt in": partitions between "roomes." Turned columns upon and over stage. Principals and fore-front of oak: no fir in lowermost or under stories, except uprights at back: all binding-joists of oak. Inner principal posts of first story 12 ft. high, 10 in. square, of middle story 8 in. square, of upper story 7 in. square. Other posts 8, 7, and 6 in. square,

according to story. Bressumers in lowermost story 9 by 7 in., in middle story 8 by 6 in. Brick foundation to rise at least 12 in. above ground. "A louvre or storie over the said house." To new tile all upper roof. Browne to lay brickwork for 80*l.* Katherens to supply all materials. Bull-house for six bulls and three horses.

A curious view of the Swan's interior was found a few years ago at the Utrecht University Library in a MS. album or "Stammbuch" of Arend van Buchell. The album contains a short description, in Latin, of the Rose, the Swan, and two other theatres, and a bear-garden, with a sketch of the Swan, "Ex observationibus Londinensibus Johannis de Witt." It is not clear that de Witt, who is supposed to have visited London in 1596, supplied materials for the account and sketch, or for either. The sketch shows the "tectum" with a small attic and its flag above, the "porticus" (second floor), "sedilia" (first floor), and "orchestra" with "ingressus" (ground floor). The "proscenium" stands on the "planities sive arena;" at its upper end, between two columns, is the "mimorum ædes," its lower portion having two doors opening on to the stage, and its upper portion a gallery in which the players are seated. Other actors are performing: no audience or band is depicted. The "ædes" has a lean-to tiled roof reaching to the base of the attic, and projecting over the back part of the stage. We have not space enough to render adequate justice to Mr. Ordish's able work, which is confined to the theatres in the Fields; the rest will form the subject of a second volume. The book is well indexed and illustrated with plans, maps, and views. For a portion of the chapter "Before the playhouses," he acknowledges his indebtedness to Mr. Brewer's article and view, "London in the time of Henry VIII," in our columns (the *Builder*, Jan. 7, 1888).

The Changes in London Building Law. By H. HEATHCOTE STATHAM. London: E. & F. N. Spon. 1894.

THIS is the critical analysis of the new London Building Act previously referred to in our "Notes," and based on the articles which have appeared in this journal, with a good deal of additional matter and revision. Among the new matter is included some diagrams of sections of houses, showing the working of the "horizontal line" and "diagonal line," in controlling the height of buildings in reference to the open spaces adjoining them, and a synopsis of the thicknesses of walls of different heights, reduced to the form of a schedule, which forms an appendix to the book. In a second appendix the list of District Surveyors' fees is reprinted from the Act.

The book deals mainly with the changes which will be introduced by the operation of the new Act, including also some criticisms as to its architectural and practical effect in the future.

Crux Mundi, Cruces Christi, Nomen Domini. By JAS. HOUGHTON SPENCER. London: Jas. Nisbet & Co.

THIS is a pamphlet of about fifty pages containing the views of the author (whose letters on various questions of symbolism have occasionally appeared in our columns) in regard to the origin and meaning of the T and cross-forms. Mr. Spencer has collected a great deal of curious information on these subjects, and there is much that is interesting in his small book, a good deal of which, however, is rather beyond our limits of discussion. We recommend the book, however, to the attention of those who are specially interested in the history of Christian symbolism.

The Direct Calculator. By M. B. COTSWORTH. London: Crosby Lockwood & Co.

THIS is a large-page volume of very conveniently-arranged tables for ascertaining at a glance the values for all weights from 7 lbs. to 1,000 tons, at all rates from 1d. up to 100*l.* per ton. For those who have to make frequent computations of freight-rates, &c., it must prove very useful, and save much time and trouble.

TRADE NOTICES.

MESSRS. EASTON & BESSEMER send us their illustrated catalogue of steam-engines and boilers, wood-working and grinding machinery, and pumps, &c. Among the engines is a high-speed electric-light engine, very accurately balanced with the object of being perfectly smooth and silent; they are also made very compact with a view to use on ships. Among the wood-working machines illustrated is an improved circular-saw-bench of very massive construction, and specially designed to be suitable for export. The Rising Spindle circular-saw benches, large and small band-saw machines, planing and jointing machines and moulding and shaping machines, are also illustrated in the catalogue. —— From Messrs. E. & E. Taylor we have received an illustrated catalogue of their various forms of lifts worked by hand, steam, and hydraulic power, as well as an electric goods lift, available where an electric installation exists in a building. The catalogue also includes iron-roof principals, galvanised iron buildings, iron grilles, revolving shutters, &c. —— Messrs. E. C. & J. Keay, of Birmingham, send us sheets showing their iron roof trusses, sections of floors and footways of bridges (road and rail), and illustrations of iron churches, pavilions, storehouses, rick-covers, and other constructions in great variety, including a good many iron structures for agricultural purposes. ——We have received from Messrs. Carrick & Ritchie, hydraulic engineers, Edinburgh, their illustrated catalogue of improved turbines and other water motors. Besides giving particulars of the various machines the firm construct, the catalogue contains much useful information on the use and efficiency of turbines, and shows how they can be adopted both for large and small powers.——The Water Carriage Engineering Co. (Sheffield) send us their illustrated catalogue of sanitary appliances, including among other things illustrations of their patent automatic flush tank, which appears to have obtained a very satisfactory record in the Sheffield Corporation Report on Automatic Flushing Closets.

Correspondence.

To the Editor of THE BUILDER.

VENTILATION.

SIR,—In the Editorial Notes last week a desire was expressed to hear more of this subject from both sides; permit me then to clear the way with a few observations on the necessity for first arriving at an understanding as to the employment of terms in connexion therewith; because, until uniformity and care are exercised in their use, no discussion can be systematically or advantageously carried on, and the chance of treating the subject from a purely scientific point of view will be indefinitely deferred.

For instance, at the end of the Note above referred to mention is made of "Mr. Henman's system," now, I have no *system*—in fact there are but two *systems of ventilation*, viz.: that of "*Extraction*" and that of "*Propulsion*," and they are the property of all; but there are many different *methods* of applying or employing those *systems*.* It would, however, have been incorrect to have spoken of "Mr. Henman's" *methods* as being employed at the New General Hospital, Birmingham, because they are those of Mr. William Key, C.E., of Glasgow.

Although I have never failed in expressing my obligations to Mr. Key for having given me an insight into the practical application of mechanical means by which continuously good ventilation may be secured, I have, in publicly discussing the subject, avoided giving too great prominence to his name, for fear of further arousing trade jealousies. Yet I do not now hesitate to say that no one, however experienced he may be in the theory, or even in the practice, of ventilation, can have any proper appreciation of the practical application of mechanical means for that purpose until he has, without prejudice, thoroughly examined and grasped what Mr. Key has accomplished by the means he employs, which during the last five or six years have given great satisfaction in providing continuously reliable ventilation in hospitals, technical and Board schools, churches, public halls, manufactories, and private dwellings.

In the face of such success his methods can scarcely be termed new-fangled, and it is to be regretted that those who venture to express opinions upon ventilation by mechanical means should so persistently "hark back" to the reports on the attempts made some twenty to thirty years since, and shut their eyes to what has more recently been accomplished with fuller knowledge and better appliances.

If this subject is worthy consideration from a scientific point of view, the terms "*natural*" and "*artificial*" ventilation should be absolutely excluded.

Ventilation is ventilation, by whatever means it is secured; the employment of such misleading adjectives undoubtedly prejudices the minds of those who only superficially examine the subject.

Let it be clearly understood there is no such thing as a *natural system* of ventilation, or of an *artificial system* of ventilation.

Natural means are movement in the outer atmosphere—or, in a word, wind—employed so as to cause change of air within an apartment, either by propelling it in or extracting it therefrom through suitable openings; and mechanical means or heat are made use of because the natural force of wind is so variable, and cannot be relied on to provide continuously-good ventilation: even open fires cannot properly be considered as natural means, as thereby a power of *extraction* is exercised up the smoke-flues.

In addition to using only exact terms, it is necessary to arrive at a correct definition of "ventilation."

That given by Mr. Keith Young in his paper on "The Sanitation of Hospitals"—viz., "ventilation means the supply of fresh air, warmed to the requisite temperature, and in sufficient volume to preserve a given standard of purity without producing draughts," is inadequate, because it does not specify the standard of purity, or even refer to the important question of humidity, and misleading because it is unnecessary to warm air on a hot summer's day, and because if, as is often the case, an apartment which is unoccupied has to be ventilated, draughts need not be avoided.

A more comprehensive and correct definition is, the supply of fresh, pure air, of suitable temperature and humidity, continuously introduced so as to prevent stagnation in any portion of an apartment, and so as to displace air which has in any way become vitiated, in a manner to give the greatest comfort to occupants should any be present.

Mr. Young further puts the question, "Is there any evidence to prove that wards cannot be kept sweet and healthy without recourse to expensive automatic appliances?" to which he only gives his opinion in the negative, and—a *tu quoque* answer. I, however, would reply that there is abundant evidence to prove that wards are not continuously kept in a sweet and healthy condition when natural means are relied on, or, why is there such a continued cry for better ventilation? Neither can it be admitted that appliances must necessarily be expensive.

Expensiveness is a question of degree, and if it is shown that natural forces are unreliable or inadequate, other power must be employed; for example, wind and water-power have had to give place to steam for grinding corn, and the scientific collection, storage, purification, and distribution of water have in many instances superseded wells. The necessities of large communities demand such changes, and if, as there is reason to believe, natural means cannot be relied on for ventilation in our large cities and towns, is it unreasonable to suppose that mechanical power cannot be applied with advantage to it, as it has been to other human necessities?

Let us examine the question in detail, and, for the purpose, take an ordinary hospital ward, because, when occupied throughout both day and night, the necessity for good and continuous ventilation is most important. Say it is for twenty-four beds, situate in the centre of a large manufacturing town; ventilated by natural means and heated by open fireplaces, assisted by steam or hot-water pipes, with ward conveniences, &c., attached, all fitted with the most modern sanitary appliances; windows to open, and holes through the walls, termed ventilating openings—by which, let it be presumed, a sufficiency of air can be admitted and discharged under favourable circumstances: *i.e.*, when the windows, &c., can be freely opened on a mild spring or autumn day with a fresh breeze blowing—change of air is then principally brought about by the propelling power of the wind outside. (Propulsion.)

To change the air four times per hour will require more than a quarter of a million cubic feet every twenty-four hours. Consider the amount of dust, dirt, smuts, flies and other insects which will enter therewith. (Impurity.)

Now take a hot, muggy day in summer. Windows open as before, but there is no propelling power of wind to cause the necessary change, and as fires are not lighted, no power of suction is available, and what little air enters is surcharged with heat and moisture. (Stagnation.)

Next a frosty day in winter with fires burning. It is too cold for open windows, so they and other openings to the outer air are closed. Yet air must enter to replace that which is sucked up the flues by the burning fires. (Extraction.) Who can tell whence it comes or what its standard of purity? Feel it one decidedly can, for it is being drawn in at every crevice with great velocity direct to the fires, yet causing little change of air in the distant

---

* Mr. Henman is perhaps right there: the use of the word "system" in that particular sentence was merely a slip in expression at the moment of writing: but he is hardly in a position to correct us as to the use of words, since he uses the term "natural ventilation" throughout his own letter, after specially saying that the expressions "natural" and "artificial" ought to be abandoned. That statement itself, however, is an absurdity. Natural and artificial ventilation are perfectly distinct things. There are, in fact, three distinct systems of ventilation, which may be defined by the words "natural," "artificial," and "mechanical." Natural ventilation is simply opening windows and letting the air move freely about as it will. "Artificial ventilation" is inducing the movement of air by such means as a specially-contrived extract-shaft, with heat applied at the foot of it, to produce a special movement of air, such as it would not take if left to itself. "Mechanical ventilation" is when movement is imparted to the air by mechanical impact, such as is produced by the blades of a fan, or by any other propelling surface (an Indian punkah, for instance, is mechanical ventilation, though it is generally worked by manual power). We have had occasion to fully consider the point, and to that division and nomenclature we intend to adhere.—ED.

parts of the ward. Maybe it comes in from the corridors or from other wards, perchance from the ward conveniences, and certainly, if direct from the outside, it is dry and cold. and consequently hurtful to delicate patients. (Draughts and inadequate change.)

At night all these disadvantages are aggravated. This is no exaggerated statement, and yet, although no deaths are actually registered as being due to defective ventilation, is it not more than probable that much discomfort and perhaps some deaths are due thereto?

Turn from this to what *is* accomplished by mechanical means, viz., in spring, summer, autumn, and winter, both day and night, a continuous change of air throughout the ward, from eight to ten times every hour, without the slightest draught, the incoming air of suitable temperature and humidity, freed from dust, dirt, smuts, flies, and other impurities. (Good ventilation.)

In this there is no exaggeration either—it is being done, and yet not one of those who supported Mr. Young's advocacy of what he calls "natural ventilation" has taken the trouble personally to ascertain that it is a fact and can be verified.

Even if they admit the possibility of such practical perfection, they say, "Look at the cost!" Well, the first cost is somewhat more than simply trusting to chance; but in addition to securing what is required, there is, at least throughout the winter months, considerable saving in fuel. No coal has to be carried about the buildings. The heating and ventilation go on without disturbance to patients; no fires have to be made up in the wards, or windows opened and closed. Repairs to apparatus are considerably reduced, because no heating appliances are in any habitable portion of the buildings; cleanliness is preserved with far less labour; and, above all, no air from an impure source can find admission, because the pressure is always in an outward direction.

Now that gas-engines and electric-motors can be economically employed, and rotary fans are brought to a high state of perfection, large volumes of air can be propelled, at a moderate cost, and by means of Mr. Key's moistened screens air can with ease be cleansed and brought to a proper state of humidity; such being the case, and it being realised that the air-ducts and flues should be of large size and arranged so that they may be easily and periodically cleaned, the difficulties which beset the pioneers of ventilation by mechanical means are practically overcome, and success is now attainable. Many details there undoubtedly are which require special study and careful adjustments, but when once an installation is properly set working, so long as it is suitably maintained, there is no reason why it should not continuously do duty economically and with comparatively little attention.

Another question relating to cost I have raised which is worthy of consideration. If the air of a ward can be so continuously and frequently changed, where is the necessity for so much cubic space per patient?

The demand for cubical capacity in hospital wards has undoubtedly been made in consequence of the difficuly in securing a suitable standard of purity by natural means; but if frequent change of air is obtained by mechanical appliances, there can be no necessity for greater size than is required for nursing purposes.

I venture to say that any additional cost in setting up a serviceable heating and ventilating installation could be more than balanced by reducing the size of buildings, together with greater efficiency and lower working expenses.

If some of your numerous readers will take this subject up and continue the discussion from a practically scientific standpoint, popular prejudices may be dispelled, and even further advance may be made in the employment of mechanical means for securing good ventilation.

William Henman, A.R.I.BA.

Birmingham, Dec. 5, 1894.

P.S.—There has recently been some correspondence in the *Builder* respecting the deterioration of pictures in the National Gallery, attributed to the drying of air by hot-water pipes, or, in other words, the want of a system of heating and ventilation such as will secure a suitable temperature and humidity in the air supply to the galleries. If there is to be any modification of the existing appliances, the authorities would do well to make themselves acquainted with Mr. Key's method of maintaining air at a proper state of humidity in connexion with a system of heating and ventilation. W. H.

*** We shall be glad to find space for any letters on the subject from those who have anything important to say, with the reservation that we cannot print letters from those who are commercially interested in any particular method of ventilating.—Ed.

TEWKESBURY ABBEY.

Sir,—In your issue of this week *re* above, you say (on the authority of the Rev. T. H. Blunt), "the church was consecrated and dedicated to the Virgin on November 20, 1123, having been completed by Earl Robert, brother of Henry I."

Duke Robert was *brother* to Henry, and died in Cardiff Castle, 1135, after an imprisonment there of twenty-nine years. Does your authority mean Earl Robert of Gloucester, the *natural son* of Henry I? J. A. Bewley.

*** We find our correspondent is correct, and we were misled by what is evidently a mistake in Blunt's book.—Ed.

Sir,—I am sorry to miss, from your notice of Tewkesbury Abbey, any reference to the rich centre bosses of the groining of the nave. They make the Virgin strangely prominent, if my memory is right in telling me that she is represented as present at the Last Supper and chief among the group at the Descent of the Holy Spirit. I do not know whether they are in this respect unique. R. T.

STAINED GLASS.

Sir,—Might I beg the courtesy of your columns to warn your readers? I find that glass which is not mine is being sold by lead-light makers as "Prior's glass." May I add that my only makers are Messrs. Britten & Gilson? Edward S. Prior.

*** The glass referred to is that which we described in a "Note" on page 388, *ante*, in reference to a window designed by Miss. Lowndes, and exhibited at Messrs. Britten & Gilson's.—Ed.

BALL-ROOM FLOORS.

Sir,—Such springiness as is necessary must be got from the elasticity of the floor-boards, and not from that of the joists and girders beneath them, which should be rigid.

An inch yellow batten under floor, with an inch pitch-pine floor (in four-inch widths, edge-nailed and dowelled) laid upon it, works very well.

A ball-room floor hung in chains exists, I believe, in Mrs. Grove's well-known villa at Hampton-on-Thames, "Garrick's Villa." I believe it is very amply tested at regatta times, but have never heard that it was very elastic. I do not see that the chains would make it so unless they were attached to C-springs. L. C. R.

P.S.—I have heard that the floor-boards in a ball-room should run lengthways, but I believe this to be a "fad."

IRON WATER-TANKS.

Sir,—Would any of your readers kindly inform me what is the best thing to coat the inside of a large cast-iron water-tank?—or should it be left as it is? Clerk of Works.

*** We presume our correspondent means galvanised iron.—Ed.

The Student's Column.

DETAILS OF RURAL WATER SUPPLY.—XXIII.

SPECIFICATIONS AND ESTIMATES.

THE preparation of the drawings, specifications and general conditions of an intended work should receive the greatest care and attention, the descriptions being in detail and clearly expressed, otherwise the contractor will construe them in one way and the engineer in another. It is therefore in the interests of both parties to the contract that sufficient time and care should be taken in drawing up the clauses and in giving as much information as possible to the contractor. This will avoid disputes during the progress of the work, which usually result in claims for extra payments over and above the contract amount. The bill of quantities showing the amount of work to be performed under each item of the specification is either prepared by the engineer or by a quantity surveyor, for which it is customary to allow from ½ to 1 per cent. on the amount of the accepted tender. This is charged through the bill of quantities, and repaid or transferred to the engineer or quantity surveyor by the contractor. It is not a desirable arrangement for the engineer to have any monetary transactions with the contractor, and it would undoubtedly be an advantage where the quantities are taken out by the engineer for this payment to be made direct to him by the person or persons for whom the work is being performed.

The following specification for cast-iron pipes will act as a guide to the preparation of contracts for such works, at the same time giving an insight into the style and method usually adopted in the preparation of specifications generally. The general conditions in this case are embodied in the specification, and are not kept distinct, as is usual in large contracts for engineering works.

Rural Sanitary District of————.

Cast-iron Pipes, Irregulars, and Special Castings.

Specification to be observed by the contractor for the supply of ordinary iron pipes, irregular iron pipes, and special castings, to the Waterworks Department of the Local Authority of the Rural Sanitary District of————.

(1.) The cast-iron pipes, from 3 in. to 12 in. in diameter, are to be in 9-ft. lengths, and the 2-in. pipes are to be in 6-ft. lengths, in each case exclusive of the socket. The whole or any portion of the above sizes to be spigot and socket, or half-turned and bored joints as may be directed to be supplied, and to be of the following weights except when otherwise ordered.

Diameter in inches.	Length exclusive of socket.	Weight including socket.			Diameter in inches.	Length exclusive of socket.	Weight including socket.		
in.	ft.	cwt.	qrs	lbs.	in.	ft.	cwt.	qrs.	lbs.
2	6	0	1	19	8	9	3	2	10
3	9	1	0	7	9	9	4	2	6
4	9	1	1	15	10	9	5	0	3
5	9	2	0	2	11	9	5	2	1
6	9	2	1	14	12	9	6	2	22
7	9	3	0	19	—	—	—	—	—

(2.) Any pipes which deviate more than 3 per cent. from the stipulated weights will be rejected. The whole of the pipes are to be manufactured and afterwards tested by hydrostatic pressure, by and at the expense of the contractor. The test pressure to be equal to a column of water 600 ft. high, and such pressure shall be maintained in each pipe at least two minutes, previous to which the connexion between the pump and the testing-machine is to be cut off. Each pipe, while under this pressure, shall be rapped from end to end with a hand-hammer 4 lbs. in weight, so as to discover any sandy, porous, or blown places. The pipes will be again proved by and at the expense of the Authority, after they have been delivered at the place required. Any pipe which shall be found to be imperfectly coated, or in which any imperfections shall appear, or wherein any sand or air-holes shall appear to have been plugged up, or which shall not agree with the terms of the specification, will be rejected.

(3.) The irregular pipes and special castings are to include all branches, elbows, thimbles, clips, cant socket-pieces, hydrant, valve, metre, and stop-tap covers fitted as per pattern, also all flange and other special castings, samples of which may be seen on application at the waterworks offices.

(4.) The straight pipes are to be cast in dry sand moulds vertically, with the sockets downwards, and the curved pipes in loam or dry sand in close boxes; the castings are to be made without the use of core-nails, chaplets, or thickness pieces, or any substitute for the same, and the contractor is to provide turned iron patterns, boxes, core-bars, and barrels for making all straight pipes, the flanges, spindles, sole plates, and cores of which are to be accurately turned, faced, bored, truly fitted and joined. The sand must be sufficiently fine and fresh to produce a smooth and perfect surface, and all the moulds and cores are to be properly black-washed and carefully dried. Great care is to be taken in preparing and drying the cores in order to ensure a smooth surface to the pipes internally.

(5.) All pipes of 5 in. diameter and under will be allowed to be cast at an angle of not less than 45 deg. from the horizontal. The pipes of each size respectively are to be of uniform bore and thickness of metal throughout their respective length, and without any belts. The castings are to be free from scoriæ, sand-holes, air-bubbles, cold-shuts, laps, washers, and all other imperfections; and the pipes are to be truly cylindrical in the bore, straight in the axis, smooth within and without, and internally of the full specified diameters, and they shall have their inner and outer surfaces as nearly as possible concentric. An increased length of at least 6 in. is to be cast on the spigot end of each pipe, such increased length being afterwards cut off in a lathe to the specified size. All pipes are to be perfectly dressed and cleansed, so that no lumps or rough places are left in the barrels or sockets. The contractor will be charged with and must pay and defray any and all losses, charges, and expenses to or for which the Local Authority or their Committee may be put, or be liable by reason of any neglect with respect to the forms and sizes of the sockets and spigots. And for the better prevention of chills, uneven shrinkage, and cracks consequent thereon, the contractor must undertake that the pipes shall not be removed too hastily from the moulds, or be laid while hot upon cold or damp earth, or be exposed while in a heated state to wet or inclement weather.

(6.) Special precautions are to be taken in

obtaining and maintaining the proper standard of quality of the mixture of iron, and in the melting of it. All the metal used shall be made from mine pig, without any admixture or proportion of cinder iron or other iron of inferior quality; and the whole is to be of the best tough, close-grained grey iron, to be remelted in a cupola or air-furnace. Whenever any castings are made, as many test-bars are also to be cast from the same metal as may be required by the Local Authority or their engineer. The test-bars are to be 2 in. by 1 in. by 2 ft. 6 in. long, placed horizontally upon the narrow width, supported on bearings 3 ft. apart, and to be capable of sustaining without breaking a weight of not less than 30 cwt., gradually applied in the centre of the bar, and producing a deflection of not less than from ·3 to ·4 of an inch. The contractor is to provide in his works, under cover and protection, suitable and approved machines for testing the test-bars to the full satisfaction of the engineer before he will be allowed to commence work under this contract.

(7.) All pipes which are ordered to have half-turned and bored joints are to be cast with such increased thicknesses of metal at the spigot and socket ends as will allow them to be so turned and bored and otherwise finished as that the spigot end of any pipe shall enter to the bottom and fit perfectly in the socket of any other pipe, and that when driven together, the whole of the turned and bored portions are in complete contact with each other, and form a perfectly water-tight joint, without the aid of any cement, lead, paint, or other substance. The turning and boring is to be executed after the pipes are coated as hereinafter specified. The turned portion of the spigot is to be $\frac{3}{4}$ of an inch in length, with a taper of 1 in 32, the socket having a similar taper to suit it. The spigot and socket joints, when so ordered, are to have a recess cast around the inside of the socket, and a bead on the spigot according to the directions of the Local Authority or their engineer. The sockets of all pipes under 4 in. in diameter are to have an allowance of $\frac{1}{4}$ of an inch, and above 4 in. in diameter an allowance of $\frac{3}{8}$ of an inch for the lead-joint.

(8.) Each pipe is to have a consecutive number, year (initials of Authority), and maker's name cast on the socket, in the same order, as specified on each order for goods, and any pipe found to be defective under the tests applied shall not have its number replaced, such number on the defective pipe being disfigured by a chisel cut.

(9.) All pipes, irregulars, and special castings are to be heated in a stove to a temperature of 300 deg. Fahr., and then dipped into a solution known as Dr. Angus Smith's, which must be of a similar temperature to the pipes.

(10.) All irregular pipes and special castings are to be made according to particulars to be furnished hereafter by the engineer, but all patterns and moulds that may be required in connexion with the above are to be provided at the cost of the contractor.

(11.) The engineer or any other person the Local Authority may appoint will be empowered to reject any pipe or other casting he may consider defective, unsound, badly varnished, of inferior quality, or not in accordance with the order, and the same is to be removed by the contractor after notice has been given to him, at his own expense; and if not removed within three days after a written notice has been served upon him, the whole or any portion of such defective material may be removed by the Authority at the contractor's expense.

(12.) Orders signed by the engineer or other authorised person for the Local Authority will be given from time to time for such descriptions of pipes and other articles as may be required under the contract, to be delivered within the following periods of time:—

Straight Pipes 2 to 8 in. in diameter inclusive—100 within 14 days, and 100 per week afterwards.

Straight Pipes 9 to 12 in. in diameter inclusive—50 within 14 days, and 50 per week afterwards.

Branch Pipes, and other irregular or special castings, 2 to 8 in. in diameter inclusive—10 within 14 days.

Branch Pipes, and other irregular or special castings, 9 to 12 in. in diameter inclusive—10 within 14 days.

(13.) Should the contractor fail to deliver the pipes, irregulars, or special castings as required, the Local Authority shall have power to determine or cancel the whole or any portion of the contract, or to order elsewhere any goods not supplied, and the difference in cost between the goods so supplied and the contract price may be charged to the contractor, or deducted from any amount due or to become due to him under the contract.

(14.) The pipes and all other castings are to be delivered to the ——— station of the ——— Railway Company when delivered by rail, or at the waterworks yard when delivered by road or canal, free of charge to the Local Authority, and the said Authority reserve to themselves the right to weigh all pipes and castings on their own weighing machines, and to pay for same according to such weights.

(15.) Should any dispute or difference of opinion arise as to the meaning or intention of this specification or of the contract, the interpretation of the same by the clerk to the Local Authority or other person to be agreed upon before entering on this contract, shall be binding and conclusive on both parties in the matters to which such interpretations shall refer.

(16.) The Local Authority do not bind themselves to accept the lowest or any tender, and reserve to themselves the right to divide and accept part or parts only of a tender.

(17.) The contractor must enter into a bond for the due fulfilment of the contract under the penalty of 100*l.*, such bond and agreement containing the written terms and stipulations to be prepared by the Clerk to the Authority and sealed by the said Authority.

(18.) Payments will be made monthly after the next succeeding meeting of the Authority if accounts are sent to the engineer on or before the ——— day of any month.

(19.) Tenders are to be made on the annexed form, four prices per ton to be given, viz.:—

(1.) For ordinary cast-iron pipes { *a.* spigot and socket. *b.* half-turned and bored.

(2.) For irregular castings.
(3.) For all other special castings.

Form of Tender.

Address.....
Date .....

To the ——— Rural Sanitary Authority.

Gentlemen,

I beg to tender for the following *pipes, Irregulars and other Castings*, as per Specification, for twelve months from the above date.

	£ s. d.
Ordinary cast-iron pipes (spigot and socket) per ton	
Ordinary cast-iron pipes (half-turned and bored) per ton	
Irregulars as under:—	
Taper or reducing pipes	per ton ———
Thimble or other branches	
Saddle branches	
Bends, elbows, and cant sockets...	
Thimbles or collars.....	
Clips	
Cap ends	
Duckfoot bends	
Flange pieces (various)	
Blank flanges	
Special Castings as under:—	
Hydrant covers, as per sample, fitted	per ton ———
Meter do. do. do.	
Stop-tap do. do. do.	
Valve do. do. do.	
Air-valve do. do. do.	
Meter caps, do. do.	
False spindles of various lengths	

Signed.....

Address.....

In preparing estimates of work to be performed, careful consideration must be given to the district in which the work is to be executed; and the correct estimation of the prices requires considerable experience of practical work. The following statement is the actual cost of laying a 3-in. main along a main road, giving the details and prices of each item. All estimates should be taken out in a similar manner.

Distance 117 yds.—3 in. Main.

No.	Tons.	Cwts.	Qrs.	Lbs.		£.	s.	d.
39	3 in. pipes	2	1	—	— at £5 per ton...	10	5	0
1	5 by 3 in. branch—		1	1	14 at 10/1½ per cwt.	0	13	10½
2	3 by 3 in. ,,	—	1	—	— ,, ,,	0	10	1½
1	3 in. bend.....	—	—	2	7 ,, ,,	0	5	8½
1	3 in. valve	—	—	—	— —	1	16	1
1	Valve cover....	—	—	2	7 at 16/1½ per cwt.	0	9	2
—	Lead	—	—	1	— at 12/- ,,	0	3	0
—	Yarn	—	—	—	2 at 2d. per lb. ..	0	0	4
—	Coal	—	1	2	— at 9d. per cwt. .	0	1	2
—	Cement	—	1	—	— at 2/ ,, .	0	2	0
—	Hauling	2	—	—	— at 1/3 per ton ..	0	2	6
	Wages paid for labour.....					7	0	0
						£21	8	11

OBITUARY.

MR. JOHN FARRELL.—Mr. John Farrell, who for many years was the secretary of Claridge's Patent Asphalte Company, Limited, of the Victoria Embankment, died recently at his residence, Putney Park-avenue, Putney, aged eighty years. Mr. R. T. Wilkinson has been appointed Mr. Farrell's successor.

GENERAL BUILDING NEWS.

ALTERATIONS TO ST. MATTHIAS' CHURCH, TORQUAY.—St. Matthias' Church, Torquay, was re-opened on the 29th ult., after undergoing considerable alterations. The church was built in 1858, and consecrated by Bishop Phillpotts as a chapel-of-ease to St. Mark's, Torwood. It has been twice previously enlarged, the last occasion (six years since) being the lengthening of the chancel and the erection of a reredos. The church was designed by Mr. Selwyn, but the alterations have been carried out from plans prepared by Mr. J. L. Pearson, R.A. The present alterations include the lengthening of the nave, rebuilding the nave arcades, building the clearstory, raising the aisle walls, and putting in a new pitch-pine panelled roof. The latter is divided into bays, and the aisles have new roofs similarly treated. The west end of the nave is enclosed between the wide responds of the arcade by an oak screen. The west window is by Messrs. Powell & Sons, of London. It represents the Te Deum. The new pulpit is the work of Messrs. Blackler & Sons, of St. Marychurch, and is of local marble, supporting and enclosing panels of carved figures in alabaster. The carved oak screen cannot yet be put in its place. It is the work of Mr. Harry Hems, of Exeter. The floors are to be laid in mosaic work by the firm of Mr. Robert Davison, of London, and the heating arrangements of the church are being carried out by Mr. A. Holloway, of Fleet-street. On the outside of the church the buttresses on the west front are extended, and this space has been arched and groined over, which forms a narthex. The contract for the alterations has been carried out by Messrs. J. W. Bunning & Son, of London. The clerk of the works is Mr. H. Cane.

BUILDING OPERATIONS IN NEWCASTLE.—According to the *Newcastle Chronicle*, the building trade and its allied industries in Newcastle seem at the present time to be in a brisk condition, thanks to public and private enterprise; and it is estimated that more large undertakings are now in progress than have ever before been known in the history of the city. Many works are at present under way at the instance of the Corporation. One of these is the extension of the City Lunatic Asylum at Coxlodge. The extension of the building is estimated to cost from 80,000*l.* to 100,000*l.* in all, and the foundations alone, which are at present being laid, will cost about 10,000*l.* When the work has been completed, one portion of the asylum will be used for men alone, and the other for women. The most modern appliances will be forthcoming, and the building will be ultimately lighted throughout by means of electricity. At present a large number of men are employed in preparing the foundations. Another contemplated Corporation undertaking is the formation of deeper water-berths at Newcastle quay in order to make room for larger steamers, and the improvement of the quayside, a work that is to cost about 25,000*l.* It is to be done, it is stated, under Corporation official management, and not to be let to contractors. The removal of the present Gallowgate baths, the erection of new baths and washhouses now in course of building, and the widening of Gallowgate, involve, says the above authority, one of the most costly works that the public body have undertaken, and which is destined undoubtedly to benefit that particular portion of Newcastle and the upper parts of the city. Besides this great work in Gallowgate, and to some extent immediately connected with it, is the contemplated improvement in the Newcastle tramway lines and the adoption of the cable haulage system. The Corporation has also on its programme the erection of lodging-houses for single men and of others for single women. One of the smaller works that the Council have sanctioned, and that will be carried out, consist of improvements to the Town Hall, at a cost of from 1,000*l.* to 2,000*l.*, extensive alterations and additions to be made at the public baths and washhouses in the New-road, and the macadamising of the footpaths from the Bull Park Recreation Ground, North-road, to the Blue House near the Grand Stand. The latter work has been almost completed. Another important work in hand at the instance of the authorities is the erection of a new police station near the Baths in the Scotswood-road. Many new religious buildings are provided for in the plans at present in the Corporation offices. The Trinity Presbyterians have arranged for the erection of a new church and schools in Northumberland-road. The West Clayton-street Congregationalists have secured land for a new church and schools in Westmorland-road. To these, in the way of religious building enterprise, may be added the building of the new church in Cambridge-street, which is at present approaching completion. The Government Department have become pressing, and the members of the Newcastle School Board have in consequence decided to considerably enlarge the

Board school accommodation. These works are being supplemented by a remarkable amount of private enterprise.

JOHN KNOX PRESBYTERIAN CHURCH, NEWCASTLE.—On the 28th ult., the foundation-stone was laid of the new John Knox Presbyterian Church, Elswick-road, Newcastle. The plan of the new church is of a horse-shoe shape. The congregation enter through a covered porch, an enclosed vestibule, into a corridor leading right and left round the curved end and the sides of the church. From this corridor there are six doors leading to the aisles, communicating direct with the seating. Above the surrounding corridor, and projecting a very little way over the ground-floor seating, is designed the gallery. The floor slopes gently towards the pulpit. The staircases to the gallery go right and left from the main entrance vestibule, and ladies' and gentlemen's cloakrooms are also provided at each side of the vestibule. Behind the pulpit is a recess for the organ, with a similar recess at the opposite end. The church is roofed in one span of 58 ft. In close proximity are designed the minister's vestry, sessions vestry, assembly hall, 58 ft. by 39 ft., with a gallery at one end, and six class-rooms divided by movable partitions. On the upper floor is a second hall, 38 ft. by 17 ft., and on the ground-floor a third room, 28 ft. by 17 ft., a library, ladies' sewing-room, tea kitchen; and, underneath the large hall, owing to the steep fall of the ground, there is designed a gymnasium. A caretaker's house is also provided. A separate entrance is arranged to all these rooms from Elswick-road and Beech Grove, with interior communication throughout. A square tower is situated at the main corner, next Elswick-road, rising to a height of 70 ft. The building is constructed of stone from the Prudham quarries. The interior will be finished in plaster, with ornamental pilasters, cornices, and coved ceiling. The woodwork will be yellow pine. The bullding is ventilated by mechanical means. It is intended to illuminate the church by the electric light. The amount of the contract for the several buildings is about 8,000*l*. The portion of the work already executed, comprising the halls, class-rooms, vestries, &c., has been erected by Mr. G. H. Mauchlen, contractor, Newcastle; and the church, cloak-rooms, and tower are now being built by Mr. Alexander Pringle, contractor, Gateshead. The clerk of the works is Mr. Nicholson, and the whole of the buildings have been designed by Mr. W. Lister Newcombe, architect, of Pilgrim-street, Newcastle.

PROPOSED SHELTER FOR LEITH CASUAL DOCK LABOURERS.—Plans have been prepared by Mr. Peter Whyte, superintendent to the Leith Dock Commission, for the erection of the proposed casual dock labourers' shelter at Constitution-place, Leith, and for the erection of offices for the use of the company porters and stevedores in connexion therewith, and it is expected that the work will be proceeded with shortly. The offices and shelter are being erected with the object of concentrating the dock labour of the port in one locality.

LYCH GATE, BISHOP'S CASTLE, SALOP.—A lych gate in Early English style was recently dedicated at Bishop's Castle. The architect was Mr. Lloyd Oswall, of Shrewsbury. and the contractor Mr. R. Bridgeman, of Lichfield. The structure, the wooden portion of which is composed of teak wood, carved with oak foliage, grapes, and emblems, is laid on moulded plinths of red Runcorn stone.

MEMORIAL HALL, SOUTH QUEENSFERRY.—On the 30th ult., in the burgh of South Queensferry, Lord Rosebery handed over to the Town Council a permanent memorial to his late wife in the form of a hall for the use of the inhabitants of the burgh. The exterior architectural treatment of the building is of the seventeenth-century Scottish style. The entrance-porch is semi-circular, and is decorated with rectangular pilasters. Entering by the front lobby, the first door to the right is the Council Chamber, which has been renovated, and incorporated in the new building. Rooms for reading, and for dominoes, chess, &c., are provided, and opposite is the entrance to the library, where the books are given out for use. The hall proper is capable of seating four or five hundred persons. At one end is a stage, painted and decorated in terra-cotta colour. Adjoining, and on the stage-level, are two ante-rooms, connected by a passage, and communicating with the outside. At the other end of the hall there is a small gallery, capable of seating about fifty persons. The ceiling is formed of three elliptic arches, supported by pilasters. On a level with the entrance to the gallery of the hall is a billiard-room, with card-room adjoining. The caretaker's rooms, cloak-rooms, lavatories, and heating-chamber are situated on the ground-floor. The architects of the hall were Messrs. Sydney, Mitchell, & Wilson, Edinburgh, and the work has been carried through under the superintendence of Mr. William Campbell, Lord Rosebery's clerk of works.

WORKSHOPS, ACKWORTH SCHOOL, NEAR PONTEFRACT, YORKS.—To meet modern requirements in the way of technical instruction new workshops have recently been added to the block of buildings known as the Society of Friends' School at Ackworth. The school was founded in 1778 by Dr. Fothergill, a well-known London physician, who, with other members of the Society of Friends, purchased the estate and the buildings, which had been erected in 1759 to serve the purpose of a foundling hospital. As a hospital, the career of the institution was short-lived, and upon the withdrawal of the Government grant in 1773 it had to be closed. The plan of the school consists of a centre and two wings, connected by means of quadrant colonnades. It is said that the central block was planned by the Rev. Timothy Lee, D.D., Vicar of Ackworth, who had Sir Rowland Winn as his colleague, but it is evident from the detail of the building that assistance must have been given by an architect conversant with the characteristics of Italian architecture. John Smeaton, the celebrated engineer of the Eddystone lighthouse, is credited with the original arrangements for the water supply. In designing the new annexe for technical purposes, care has been taken that it should harmonise as far as possible with the old Georgian buildings. It is a one-storied building, 60 ft. long by 30 ft. wide, one half of it arranged as a class-room with working-bench spacc for twenty students, and the remaining half fitted up with benches and lathes for leisure hour pursuits. A short corridor connects this latter room with the gymnasium. In height the rooms are 13 ft. 6 in. to the plate, and 16 ft. 6 in. to the ceiling. The walls are faced with stone from the Ackworth Moor Top quarries, and lined inside with brick, and the roof is covered with green Tilberthwaite slates. The floors are laid with substantial floor-boards on a concrete bed. In addition to the window-lighting, additional illumination is provided by means of north roof lights. The rooms are heated by low-pressure hot-water piping. The new extension, which was opened on the 22nd ult. by Mr. Thomas Pumphrey, of Newcastle, the Chairman of the School Building Committee, has been erected by Mr. John Simpson, of Ackworth, from the designs and under the superintendence of Mr. William H. Thorp, architect, of Leeds.

HOUSE, CUMBERLAND AND WESTMORELAND ASYLUM.—A house for private patients is about to be commenced at Garlands, Carlisle. This is part of a scheme for providing accommodation for paying-patients, consisting of a central main administrative building and a series of houses on either side. An excellent site has been chosen in the asylum grounds. The designs are being prepared by the County Architect, Mr. Geo. Dale Oliver, of Carlisle.

NEW SCHOOLS, WIGAN.—On the 28th ult., the new Church Schools, which have been built in the parish of St. Andrews, Wigan, were opened. The schools have accommodation for about 500. The work has been carried out by Mr. C. B. Holmes, of Wigan, at a cost of about 2,800*l*. The architects are Messrs. Heaton & Ralph, Wigan.

SANITARY AND ENGINEERING NEWS.

BRIDGE, BROOMHILL, N.B.—On the 27th ult. the Broomhill Bridge, which has been in course of erection for about a year, was opened by the Countess of Seafield. The new bridge is to take the place of the old one, which has been considered unsafe. It is one of the longest on the Spey, having a length of 450 ft. It consists of fifteen spans, varying in width from 25 to 33 ft. each. Piles have been driven about 20 ft. into the bed of the river, and the bridge itself is built of creosoted red wood with double cantilevers, and has ornamental stone towers at each end. It has a clear width of 14 ft. between the parapets, and has cost about 1,700*l*. The contractor was Mr. Charles Mackay, Inverness, and the architect Mr. Mackenzie, road surveyor, Kingussie.

STAINED GLASS AND DECORATION.

WINDOW, JESUS COLLEGE, CAMBRIDGE.—A painted window has been placed in Jesus College chapel, Cambridge, in memory of the Rev. G. S. O. Morris, formerly scholar of the college. The window is one of three lights, on which are represented figures of our Lord and the Apostles St. Peter and St. Paul. The principal portion of the colour is found in the draperies of the figures, the accessory ornament being painted on white. The style chosen is that of the earlier years of the sixteenth century. In the interstices at the top of the window are scrolls bearing the words "Fides," Victoria," Spes," with emblems. The window was designed and drawn by Mr. N. H. Westlake, F.S.A., and executed by Messrs. Lavers & Westlake (London).

SCULPTURED PANELS, BLACKBURN FREE LIBRARY.—A sculptured panel on the north-western façade of the Blackburn Free Library and Art Gallery was recently unveiled, the work having been carried out by Mr. G. W. Seale, sculptor, of 284, Coldharbour-lane, Brixton. The sculptor has followed the same idea as that expressed in the central panel over the entrance in the arrangement of the figures, but the new work is illustrative of modern times instead of ancient history and philosophy. Nine figures are grouped upon the panel in the following order:—Macaulay (history), Thackeray and Dickens (fiction), Browning and Tennyson (poetry), Ruskin and Carlyle (criticism), and Owen and Darwin (science). Symbolical objects are carved in relief, the Temple of the Muse forming the background of the poets, and other symbols are introduced to give expression to the different characters. This is the eighth panel upon the building, and the work was begun by the sculptor in 1874.

MEMORIAL-TABLET, EXETER CATHEDRAL.—A tablet has been erected in the south aisle of Exeter Cathedral in memory of the late Major-General Fremantle. The tablet is of white statuary marble, and is the work of Messrs. Harry Hems & Sons, Exeter.

WINDOWS, ST. PATRICK'S CATHEDRAL, ARMAGH.—Two stained-glass windows have just been completed in St. Patrick's Cathedral, Armagh. The windows occupy a position on the west side of the sanctuary, above the Lady's Chapel. Each of the windows consists of three lights, surmounted with trefoiled tracery. In the first window are the figures of St. Joseph, St. Malachy, and St. Benignus, and underneath these is a representation of the parable of the Good Samaritan. On the second window is given a representation of the three saints, St. Theresa, St. Brigid, and St. Dympna. The windows are from the studios of Messrs. Mayer & Co.

FOREIGN AND COLONIAL.

FRANCE.—The distribution of awards in the competition opened this year by the "Société Nationale des Architectes Français," took place last week; the first prize was awarded to M. Ferdinand Perrin, the second to M. Fernand Lorraine.——The Municipal Council at Paris has voted a credit of 283,000 fr. for the continuation of the works of the new Mairie of the Xth Arrondissement, in regard to which a a report has been issued giving the highest credit to the architect, M. Rouyer, for the design of the building, which it is considered will be a great addition to Parisian architecture.——A monument to Léon Cladel, the author, has been commissioned from M. Auguste Rodin, to be erected in Pére la Chaise. The same sculptor is to carry out the monument which the Municipality of Calais intend to erect to the memory of the "Bourgeois de Calais." The monument will be erected on the "Place des Postes," and is expected to be inaugurated in June next.——It is announced that the celebrated ruins of the Abbey of Jumièges are to be sold. It is to be regretted that the State should not think it worth while to acquire the remains of this Abbey, so rich in historic associations, and the preservation of which would be a matter of real interest to artists and archæologists.——The new ceiling decoration of the Théâtre de Moulins, a painting by M. Auguste Sauroy, has just been inaugurated. The subject is the apotheosis of Théodore de Banville, whose principal works are symbolised by the personages grouped around the bust of the poet, while a figure representing his native town crowns him with laurels.——It is announced that a local narrow gauge railway is to be shortly established in the departments of Oise and Somme, between Bussy and Ercheu.——In order to satisfy the demand made to it by M. Daumet, in the name of the Société Centrale des Architectes, the President of the Tribunal of Commerce of the Seine has decreed that in future the qualification of architect should not be given to any bankrupt, in a legal declaration of insolvency. This decision is based on the principle that an architect is a member of a liberal and artistic profession, and has nothing to do with commercial speculations, and that therefore *quâ* bankrupt, he is not an architect.——M. Adhémar Leclère, the French resident in Cambodia, has discovered at Kampong-Thom the ruins of thirteen brick towers, formerly dedicated to Brahminical divinities, as well as of an elevated road from these towers to Angkor-Thom, the ancient capital of Cambodia.

MISCELLANEOUS.

NEW UNDERGROUND CONVENIENCE IN HIGH-STREET, ISLINGTON.—The convenience, which is constructed under the carriage-way of High-street, comprises entrance and exit staircases enclosed by wrought-iron railings, six water-closets, twelve urinals, lavatory with three basins, attendant's-room, and two store-rooms. The roof is formed of pavement-lights supported on steel-joists, and is laid out as a refuge. The brickwork has been built in Portland cement. The interior is faced with white-glazed bricks, with a plinth and dado of blue-glazed bricks, the whole being laid with very fine joints. A horizontal damp-course has been laid in all walls at the floor level, the back of the exterior walls has been twice coated with a boiling mixture of tar and pitch, and a backing of dry rubble has been put round the walls and drains formed of channel-pipes, laid so as to discharge subsoil water through weep-holes in the exterior walls into gullies inside the convenience. The drains are formed of glazed stoneware socketed pipes jointed with cement, and are ventilated into brick chambers in the carriage-way, the chambers also acting as surface-water gullies. Doulton's "Simplicitas" water-closets have been used, and are flushed by the "Paisley" cisterns, each of three gallons capacity. The basins are fixed by bolts embedded in concrete, so that a basin can be replaced without disturbing the tiling of the floor, by simply taking off the nuts and placing another basin over the bolts, which remain fixed

permanently in the concrete, and replacing the nuts. Messrs. Charles Smith & Sons' indicator locks have been fixed on the doors of the water-closets. The urinals have semi-circular backs of white glazed ware with screens and backs of Rouge Royal marble. The only special feature in the construction is a movable slab in the back, which makes the pipe to each urinal accessible without the removal of the whole of the marble back. The lavatory is furnished with Doulton's pedestal basins of the tip-up kind. All the frames of the doors and partitions have been set on chamfered bases of York stone 3 in. above the level of the floor, in order to prevent their lower parts being injured by water splashed from the hose. The floors are laid with vitreous tiles. Cast-iron gratings and a central lamp-column on the refuge have been provided for the ventilation of the convenience. Gas-jets, fixed over the doors of the water-closets, will light the convenience at night; and the products of combustion will be collected by hoods placed above the jets, and conveyed by tubes discharging under the ventilating gratings on the refuge. The work throughout has been designed by Mr. J. Patten Barber, M.Inst.C.E., Chief Surveyor to the Vestry, and carried out by Messrs. Doulton & Co., sanitary engineers, London, Paisley, and Paris; the cost amounting to 1,510*l.*

DISSOLUTION OF PARTNERSHIP.—We are informed by Messrs. Mainzer & Farrar (late Mainzer & Kempthorne), casement-makers, &c., of Berners-street, Oxford-street, that having dissolved partnership by mutual consent, Mr. W. Mainzer will continue the mosaic and parquetry department, and Mr. E. Farrar will continue the casement and lead-light department, at 69 Berners-street, W.

GLASGOW INSTITUTE OF ARCHITECTS AND THE CORPORATION.—The Council of the Glasgow Institute of Architects have presented a memorial to the Corporation regarding the designing of public buildings in the city. In the memorial it is set forth that in the case of the Municipal Offices in George-square, and that of the Art Galleries in course of erection by the Association for the Promotion of Art and Music in Glasgow, a desire was shown, and some consideration given, to secure that the designs should be worthy of the important purpose that each of those buildings was to serve. With buildings of secondary, but still of great importance, no corresponding effort is made. The Council of the Institute submit that the design and arrangement of such buildings are, as much as those of the larger edifices, worthy of every attention and care that can be bestowed on them. The Council of the Institute are of opinion that the designing of important public buildings cannot be satisfactorily done by the department of the Master of Works, or of the City Engineer, and still less when the head of that department is an engineer than when he is an architect. The duties of the office include, among others, the charge of the public streets, and the design and superintendence of numerous and important works of engineering, as well as assisting and advising the committees of the Town Council in connexion with health, gas, water, paving, sewerage, City Improvement Trust, railway and subway operations, and many other works, and it is evident that in a city of such magnitude as Glasgow these duties must be of a very onerous nature. To relegate the designing of important works of architecture to the assistants of a gentleman who is responsible for the efficient discharge of such duties as the foregoing, and who is himself not an architect, seems to the Council to indicate a want of appreciation of the position which architecture should occupy in an important city. Not only within the membership of the Glasgow Institute, but also outside it, among architects of the city and others, there is a large fund of architectural ability and experience. The Council of the Institute respectfully ask the Town Council to consider how far this ability should be made available on behalf of the community under their charge. In conclusion, the Council of the Institute desire to say that they are not impelled by any merely selfish or narrow motive, but that they ask for the consideration of a question of public policy on which they believe themselves to be entitled to express an opinion.

REREDOS, CORFE CHURCH, SOMERSETSHIRE.—The additions to the reredos in Corfe Church, which have been erected by Mr. F. W. Newton, J.P., D.L., of Barton Grange, to the memory of the late Mrs. Newton, were dedicated on the 30th ult. The additions consist of two wings filling up the spaces between the centre piece and the north and south walls of the chancel. The work has been carried out by Mr. W. J. Giles, carver, of Wellington, from the designs of the architect, Mr. J. Houghton Spencer.

NEWCASTLE SOCIETY OF ANTIQUARIES.—On the 27th ult. a meeting of the Newcastle Society of Antiquaries was held in the Castle. Dr. Embleton read a paper entitled "Notes on the Quig's Burial-place, Percy-street, Newcastle." He stated that on August 23 he witnessed the excavations going on at the site of the once famous Bruce Academy, in Percy-street, where the burial-ground had been. With respect to the head-stones, some of them had previously been removed from the ground and placed against the walls, and later on they were removed, and some of them deposited in by no means suitable places. One was said to be in the Unitarian Church, New Bridge-street, Newcastle, and another was in the Castle. A piece of marble engraved with a crest was discovered during the excavation. Mr. Maberly Philips said he believed that the date of the first interment at the Quig's burial ground was in 1683. The stone in the Unitarian Church had never come from the Quig's burial-ground, and the reader of the paper was in error there. The stone was that of William Durant. It was found in Anderson-place, where Durant was buried, and he believed it was given by the historian Brand to the Rev. Mr. Turner, when the Unitarian chapel was in Hanover-square, and when the community removed to New Bridge-street the stone was taken there. Tha Rev. Alfred Boot, vicar of St. John's, Darlington, read a paper on "Northern Monasticism." Votes of thanks were accorded to the readers of the papers.

LEGAL.

WHAT IS A NEW ROAD?

IMPORTANT POINT UNDER THE PUBLIC HEALTH ACT.

THE case of the Bromley Local Board *v.* Lansbury and another came, on the 4th inst., before a Divisional Court of Queen's Bench, consisting of Justices Grantham and Lawrance, it being the appeal of the Board from the decision of Judge Emden, of the Bromley County Court.

The action was brought in the Court below to enforce the payment of 42*l.* 10s. 5d. under the Public Health Act, 1875, in respect of two houses in New Homesdale-road, Bromley, upon the estate of Mr. Thomas Lansbury, such amount being an apportionment of the cost of making up the road. It appeared that the Homesdale-road was laid out in 1878, and in 1884, buildings having been erected on both sides of the road, Lansbury, who was one of the frontagers, and the Local Board came to an arrangement that the new road should be made up to the satisfaction of the Board's Surveyor, and should be kept in repair by the frontagers for six months, and that the Board should then adopt the road. The Board, however, did not, after the expiration of the six months, give the notice of adoption under Section 152 of the Act. Subsequently the road falling into disrepair, the Board in 1888 served Lansbury and the other frontagers with a notice, under Section 150 of the Act, to make-up the road. As this notice was not complied with, the Board executed the necessary works, and ultimately commenced the action to recover the expenses. The Board's contention was that the case came within Section 152 of the Act, and therefore it had no power in 1884 to take over the road, because the requirements of that section as to metalling, channelling, sewering, gravelling, &c., had not been complied with.

The defendants contended that the case came within Section 146 of the Act, which gives the Local Authority power to agree to the making of a new road without requiring any of the particular things specified in Section 150 to be done. The learned County Court Judge held that the Board was bound by the arrangement come to in 1884, and gave judgment for the defendants, and against that decision the Board appealed.

At the conclusion of the arguments of counsel, Mr. Justice Grantham, in giving judgment, said that it was not necessary for him to say, and he was not able to say, whether or not he would have come to the same conclusion as the County Court Judge if he had tried the case; but when the agreement was looked at, and also the minutes of the Board and the reply sent to Lansbury's application, it was impossible to doubt that the Board had treated the road as a new road under Section 146, and that it was to their interest so to treat it. He could not interfere with the finding and send the case back for re-trial, and therefore the appeal would be dismissed.

Mr. Justice Lawrance having concurred, the appeal was accordingly dismissed with costs.

Leave to appeal was refused.

Mr. Clarke Williams appeared as counsel for the appellants; and Mr. William Graham for the defendants.

ACTION IN RESPECT OF A BUILDING CONTRACT.

THE case of Dearing & Sons *v.* Richards came before Lords Justices Lindley and A. L. Smith, in the Court of Appeal, on Tuesday last.

Mr. Willes Chitty said this was an appeal by the defendants against an order of Mr. Justice Day, by which he reversed the order of the Master and refused leave to defend. The action was brought by Messrs. Dearing & Sons, building contractors, against Mr. Thomas Richards, Mr. Barlow, and others, in respect of a building contract, and the claim was for 915*l.*, balance of 1,294*l.*, alleged to be due in respect of the contract, which was dated March 3, 1893. The statement of claim set out that the certificate of two architects was to be obtained before payments on the contracts were made to the contractors. Messrs. Bruton & Niblett were the two architects in question. During the carrying out of the work a good deal of dispute took place between some of the parties and Mr. Niblett. On June 16, 1894, Mr. Niblett wrote out what he called a certificate for 1,341*l.* as due. This was admittedly a mistake for 1,248*l.* He called that "Instalment No. 12," and a final certificate.

Lord Justice Smith: Can one architect give a certificate?

Mr. Willes Chitty: No, certainly not. Continuing, counsel said after that Mr. Bruton wrote that there was a balance of 915*l.* due. He was of opinion that this second certificate was not written on the contract until one day before the writ was issued.

Lord Justice Lindley asked Mr. Boxall what the plaintiffs had to say to this.

Mr. Boxall contended that the final certificate by one of the architects was enough.

Lord Justice Smith: How do you say you have got the certificate of the two?

Lord Justice Lindley: You cannot say this is an undefended action. I think the Master was right.

Appeal allowed, costs to follow the event.

INJUNCTION AGAINST THE WINDSOR CONSERVATIVE CLUB.

IN the Chancery Division on Wednesday, Mr. Justice Chitty had before him the case of Kearley *v.* the Windsor and District Conservative Club. It was a motion by Mr. Levett, Q.C., on behalf of the plaintiffs, Kearley & Tonge, wholesale provision merchants, in the City, to restrain the defendants from committing a trespass upon land included in the plaintiffs' site under a deed dated November 25, 1881, whereby the premises known as 97, Peascod-street, New Windsor, were demised to the plaintiffs' predecessors in title for a term of twenty-one years. The trespass alleged was the building, or attempting to build, on the premises and on the site of the old boundary-wall on the west side of the premises, a structure which would darken the ancient lights of the plaintiffs' premises.

After hearing Mr. Fardell for the defendants, who submitted there was no case for an injunction,

His lordship granted the injunction restraining defendant from erecting on the site of the old boundary wall, or on the site of the yard on the west side, any wall or other structure which would obstruct the ancient lights of the plaintiffs' premises as they were enjoyed previously to the taking-down of the old boundary-wall. Costs would be costs in the action.

MEETINGS.

FRIDAY, DECEMBER 7.

Architectural Association.—Mr. E. O. Sachs on "The Modern Theatre of the Continent." 7.30 p.m.

Institution of Junior Engineers.—Mr. W. Mallock on "Waterworks and Appliances." 8 p.m.

SATURDAY, DECEMBER 8.

London and Provincial Builders' Formen's Association (Memorial Hall, Farringdon-road, E.C.).—Half-yearly Meeting. 7.30 p.m.

Queen's College, Cork.—Mr. Arthur Hill on the "History of Architecture." III. 3 p.m.

SUNDAY, DECEMBER 9.

South-place Institute.—Mr. W. Williams on "The Mason's Art." 4 p.m.

Sunday Lecture Society.—Mr. E. Neville-Rolfe on "The Buried Cities of Campania." 4 p.m.

MONDAY, DECEMBER 10.

Surveyors' Institution.—(1) Mr. William Sturge on "The Burdens on Real Property and Land"; (2) Discussion on that Paper and on the Paper read at the last Meeting by Mr. A. Dudley Clarke, entitled "The Incidence of Taxation on Land." 8 p.m.

Clerks of Works' Association (Carpenters' Hall).—Paper by Mr. T. Simpson. 7.30 p.m.

Society of Arts (Cantor Lectures).—Professor Vivian B. Lewes on "Modern Developments in Explosives." III. 8 p.m.

TUESDAY, DECEMBER 11.

Institution of Civil Engineers.—Mr. Edw. B. Wain on "Colliery Surface-Works." 8 p.m.

University Extension Society (Chelsea Town Hall).—Mr. Arnold Mitchell on "English Architecture." X. 3 p.m.

WEDNESDAY, DECEMBER 12.

Sanitary Institute.—Dr. G. Blundell Longstaff, M.A., Chairman of the Building Act Committee of the London County Council, to open a discussion on "The Sanitary Aspects of the London Building Act, 1894." 8 p.m.

St. Paul's Ecclesiological Society.—A meeting will be held at the Chapter House, St. Paul's, when objects of Ecclesiological interest will be exhibited and described. 7.30 p.m.

Northern Architectural Association.—Mr. H. Barnes on "The Economics of Architecture." 8 p.m.

THURSDAY, DECEMBER 13.

Society of Antiquaries.—8.30 p.m.

Institution of Electrical Engineers.—(1) Annual General Meeting, Reception of the Annual Report of the Council and Election of Council and Officers for the Year 1895. (2) Mr. C. S. du Riche Preller on "Electrical Steep-Grade Traction in Europe." (3) Mr. H. D. Wilkinson on "Electric Tramways in the United States and Canada." (4) Messrs. R. W. Blackwell (Foreign), and Philip Dawson on "Electric Traction, with Special Reference to the Installation of Elevated Conductors." 8 p.m.

FRIDAY, DECEMBER 14.

Institution of Civil Engineers (Students' Meeting).—Mr. S. Henry Barraclough, B.E., and Mr. Lionel S. Marks, B.Sc., on "Some Experiments on the Heat-losses to the Cylinder Walls of a Steam-Engine." 8 p.m.

SATURDAY, DECEMBER 15.

Institution of Junior Engineers.—Visits to the Hampton Station of the following Waterworks: 3 p.m., Southwark an

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered.
Sewage Disposal Scheme	Horncastle Local Bd.	.....	Dec. 14
Academy Buildings	Dumfries Burgh Sch. Bd.	30*l.* 20*l.*	Jan. 17
New Covered Markets	Leek Improvement Commissioners	50*l.* 25*l.* and 10*l.*	Mar. 4

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.
*10-ton Steam Road Roller	Borough of West Ham	L. Angell	Dec. 11
Villa and other Buildings, Victoria-street, Barnsley	.....	H. Crawshaw	Dec. 12
Making-up Surrey-road, Bournemouth	.....	Hankinson & Son	do.
Institute, St. Peter's Church, Dorchester	.....	Jem Feacey	do.
Granite Kerbing and Flagging	Northampton Corp.	Ibbs Brown	do.
Earthenware Pipe Sewers (12,000 yds.)	Stone (Staffs) Loc. Bd.	T. S. McCallum	do.
Alterations, Birch Hall	Farnworth (Lancs.) Local Board	W. J. Lomax	do.
Seventy-four Houses, Plymouth-street, Merthyr Tydfil	Clare Building Club	.....	do.
*Construction of Sewers	Hammersmith Vestry	H. Mair	do.
Drainage and Tanks at Workhouse, &c.	Elham (Kent) Union	Gardner & Ladds	Dec. 13
Houses, Cramlington, Durham	Local Co-op. Society	J. G. Crone	do.
Two Houses for Sludge Presses, &c. Urmston Meadows	Moss Side (Lancs.) Local Board	Jno. Bowden	Dec. 14
Additions to Schools, Willenhall-road	Wolverhampton Sch. Board	T. H. Fleeming	do.
Wharf, Bangor, co. Down	R. Neill & Sons	Russell & Lockwood	Dec. 15
Draining, &c. Brook-street and others	Coventry U.S.A.	E. J. Purnell	do.
Schools, Church-walk, Ulverston, Lancs.	.....	J. W. Grundy & Sons	do.
Semi-detached Villas, Moor-lane, Ovenden, Yorks	.....	W. H. D. Horsfall	do
Road Stones	Newcastle-on-Tyne Corporation	H. F. S. Kynnersley	Dec. 17
Sewer Pipes and Laying, also Tank, Battle Bridge-lane	Reigate Town Council	F. D. Clark	do.
New Road, New Barry, Craigan	Llandaff Highway Bd.	Jas. Holden	Dec. 18

CONTRACTS—*Continued.*

Nature of Work or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.
Pipe Sewer and Manholes, Warwick-road, Sparkhill, Birmingham	Solihull U.R.S.A.	A. E. Currall	Dec. 18
Tar-paving, Hornchurch	Romford Union	F. J. Smith	Dec. 19
Stables, &c. Lower King's-road, Berkhamsted	A. C. Meek	T. F. Shaw	Dec. 20
Masonic Hall, Clones, Ireland	J. M. Calvert	.....	do.
Waterworks, Brereton, near Rugeley	Lichfield R.S.A.	W. E. Rogers	do.
*Laundry at Workhouse	St. Mary (Islington) Guardians	W. Smith	do.
*Brick Gasholder Tank	.....	S. White	Dec. 24
*Sanitary Work at Workhouse	St. Saviour's Union	Jarvis & Son	Dec. 27
Alterations, &c. to Mortuary, Lunatic Asylum, Haywards Heath	Visitors	Hy. Card	Dec. 28
Schools, Westgate Hill	Newcastle-on-Tyne Sch. Bd.	Armstrong & Knowles	do.
*Municipal Technical School	Manchester Corp.	Spalding & Cross	Dec. 31
*Additions, &c. Donaghmoyne House, co. Monaghan	J. M. Bolton	R. P. T. Logan	Jan. 1'95
*Menston Sewerage	Wharfedale U.R.S.A.	J. Waugh	Jan. 3
*Waterworks	Skibbereen Union, co. Cork	R. W. Walsh	Jan. 12
Schools, Craven Arms, Salop	Stokesay School Board	*Official*	No date
Additions to Schools, Knocklea	Strathdon (N.B.) Sch. Bd.	do.	do.
*Stables, &c. Little Cadogan-place	W. J. Smith	J. Emes	do.
Three Cottages, Malting Farm, Langham, near Colchester	Jas. Hines	J. W. Start	do.
Farmhouse, &c. Grinsdale, near Carlisle	J. Holme	.....	do.
School Chapel, &c. Bishopston, near Bristol	.....	H. J. Jones	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in.
*Clerk of Works or General Foreman	Bermondsey Vestry	3*l.*	Dec. 12
*Clerk of Works	East Ashford Union	.....	Dec. 14
*Assistant, Water Engineer's Department	Darwen Corporation	130*l.*	Dec. 17

Those marked with an asterisk (*) are advertised in this Number. ***Competition, p. iv.*** ***Contracts, pp. iv., vi., viii. and xx.*** ***Public Appointments, p. xviii.***

Vauxhall. 3.30 p.m., Grand Junction. 4.30 p.m., West Middlesex. By permission of the respective Engineers, Messrs. J. W. Restler, A. Fraser, and M. W. Hervey, M.M.Inst.C.E.

Queen's College, Cork. — Mr. Arthur Hill on "The History of Architecture." IV. 3 p.m.

RECENT PATENTS:

ABSTRACTS OF SPECIFICATIONS.

20,127.—Machinery for Making Plumbers' Traps: *A. F. Davies.*—This is a lady's invention, and it deals with somewhat complicated machinery for making lead traps. Special forms of traps are made by machinery adapted to turn them out economically, and a difficulty in manufacture is met by controlling the flow of lead to the machines.

22,275.—Chimney Flues: *E. H. Morgan.*—To economise heat and prevent down-draught, a metal box or case is inserted in the flue. The case is fitted with baffle-plates, which cause the smoke to make a zigzag passage and prevent it from descending.

23,997.—Chimney-Pot: *A. Girsau.*—This pot has a vertical pipe the bottom part of which is entered in or seated on the top of the chimney. The upper part of the vertical pipe communicates with a globular enlargement into the bottom of which and from the top of which lead-pipes are fixed to the globes obliquely so that a number of cross passages are formed into and through the globe. The oblique passages cause a draught and dilute the smoke with air. In the case of a side-wind the smoke is discharged from the oblique pipes fixed on the upper part of the globe. Each oblique pipe in the upper surface of the globe is in a line with a bottom one.

25,037.—Window-Sashes: *T. Downie.*—This patent relates to another invention for swivelling or turning in the window-sashes for the purposes of cleaning, &c.

7,420.—Sash-Weight: *W. Hodgson.*—The sash-weight which is the subject of this patent is made up in sections to adjust the weight to that of the sash, and each section is enabled to be keyed on to or joined to the preceding section.

13,810.—Window-Sashes: *E. G. Kendall.*—This is yet another invention to enable the sashes to be reversed or turned into the room for the purposes of cleaning, &c.

16,812.—French-Windows or Casements: *R. H. Wilhelm.*—In French-windows having sashes opening outwardly, hinges with leaves afford a means of turning and locking in the sashes for cleaning and other purposes.

NEW APPLICATIONS FOR LETTERS PATENT.

November 19.—22,283, G. Napier, Sliding and Swivelling Doors and Partitions.—22,297, A. Barr, Windows.—22,308, C. Picking, Bricks or Blocks to be employed in the construction of the floors of fireproof and other buildings.—22,315, J. Craine, Window-Sash Fasteners.—22,345, P. Willis, Ratchet Brace.—22,348, R. Evered and N. Coleman, Flushing Cisterns.—22,350, R. Lofthouse, Ventilators.—22,368, G. Czerwonky, Roofing Tile.

November 20.—22,421, A. Stannah, Self-Opening Door.—22,427, W. Youlten, Water Bars for Casements.—22,441, H. Lake, Machines for cutting or dividing strips of veneer into lengths.—22,451, W. Wilson and H. Weedon, Fastenings for Glazing.

November 21.—22,507, J. Williams, Casements.—22,509, E. Howard, Flushing Tanks.—22,529, S. Rowley, Water-closets.—22,549, P. Willis, Machines for effecting the opening and closing of doors from a distance.

November 22.—22,623, C. Smith, Drains.—22,627, E. Stimson, Lathing.—22,632, H. Lake, Fastenings for Doors.—22,633, J. Lenba, Paving-stone.

November 23.—22,655, J. Whitehead and A. Herbert, Sash-fastener.—22,674, R. Dean, Flushing-cisterns for Water-closets.—22,675, D. Macpherson, Paint-brushes and tins.—22,628, J. Cordner, Chimney or Ventilator-top.—22,689, F. Banting, Window-fastener.—22,702, T. Crapper, Expanding-plug for Drain-pipes and Traps.—22,711, C. Russell, Pipe and Rod-fasteners for Lath and Plaster and Flimsy Walls and Ceilings.

November 24.—22,772, J. Green and W. Oates, Socket and Earthenware Pipes.—22,773, J. Green and W. Oates, Joints in Earthenware Pipes.—22,774, J. Green and W. Oates, Joining Earthenware Pipes.—22,775, J. Green and W. Oates, Earthenware "Access"-pipe.—22,793, W. Orr, Concrete and Composite Buildings or Structures.—22,815, T. Griffen, Ventilators and Construction of Greenhouses. 22,816, W. Bailey, Flushing-cisterns.—22,832, W. Tanner, Door-slides.

PROVISIONAL SPECIFICATIONS ACCEPTED.

18,654, A. Adams, Bolts, Locks, Latches, Fastenings, and Stays for Casements, Sashes, Windows, Doors, &c.—20,555, B. Nicklin, Door-bolts, &c.—20,618, L. Bonvoisin, Door and Window Check.—20,740, H. Wylde, Door-locks and Latches.—20,774, E. Harnett, Hinges.—20,777, F. Müller, Water-closets.—20,930, J. Merrill, Water-closet Basins.—21,275, T. Percoe, Sewers.—21,305, O. Whitehead, Disinfecting Water-closets.—21,397, T. Chandler, Draught Excluder for Bottoms of Doors.—21,439, E. Lacey, Electrical Sewer Ventilator.—21,518, H. Drimer, Scaffolds for Buildings and Appliances therefor.—21,530, A. Sinclair, Doors.—21,611, T. Houghton, Windows.

COMPLETE SPECIFICATIONS ACCEPTED.

(Open to Opposition for Two Months.)

465, D. Aitken, Window Sashes.—1,253, C. Ellis, Ventilators.—1,404, T. Holliday and J. Robson, Constructing Window-sashes for obtaining Ventilation with reduced Draughts.—1,422, S. Morley, Gulleys.—3,449, W. Johnson, Sash-pulleys.—13,625, G. Pollard, Window-sash Fasteners.—15,447, J. Foote, Window-sash Fasteners.—17,748, H. Haddan, Clamping Devices.—17,749, H. Haddan, Clamping Devices.—19,119, J. Foote, Pulley-casing for Window-frames.—20,248, F. Furness, Tiles for Floors, &c.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

November 22.—By *Osborn & Mercer* (at Cheltenham): The Gotherington Estate, "Trueman's Farm," near Cheltenham, containing 14a. 3r. 27p., f., 685*l.*; "Moathouse Farm," containing 88a. 3r. 0p., f., 2,000*l.*; enclosures of pasture, 26a. 2r. 15p., f., 400*l.*; five freehold cottages and enclosures of orchard ground, 4½ acres, 730*l.*

November 23.—By *Ellis & Son:* "Gleadthorpe," Whitton-rd., Twickenham, u.t. 76 yrs., g.r. 5*l.*, r. 35*l.* 5s., 430*l.*; "Ockley," u.t. 76 yrs., g.r. 3*l.* 8s., r. 30*l.* 5s., 360*l.*

November 26.—By *Mullett, Booker & Co.:* 12, Devonport-st., Hyde Park, u.t. 41 yrs., g.r. 20*l.*, 1,000*l.*—By *Beard & Son:* 25, Westbourne Grove, Westbourne Park, u.t. 60 yrs., g.r. 18*l.* 10s., 5,700*l.*; 21, Prince of Wales-rd., Kentish Town, u.t 44 yrs., g.r. 7*l.* 7s., 310*l.*—By *Harman Brvs.:* "Ravenswing," Stamford Hill, u.t. 77 yrs., g.r. 23*l.*, 400*l.*—By *Elliott, Son & Boyton:* 16, Montagu-st., Portman-sq., u.t. 53 yrs., g.r. 26*l.*, 35*l.*—By *Weatherall & Green:* No. 177, Upper Thames-st., f., 2,060*l.*; 48, 50, and 52, St. Mark's-rd, Camberwell, f., r. 62*l.* 8s., 830*l.*

November 27.—By *M. Liell & Son:* 89, Antill-rd., Bow, u.t. 74 yrs., g.r. 6*l.* 3s. 6d., r. 40*l.*, 460*l.*; 71 and 73, Usher-rd.; 74 and 76, Armagh-rd., u.t. 61 yrs., g.r. 14*l.*, 720*l.*; 6, Selwyn-rd., u.t. 54 yrs., g.r. 4*l.* 4s., 250*l.*; 67, Beauchamp-rd., Battersea, u.t. 86 yrs., g.r. 7*l.* 10s., r. 41*l.*, 415*l.*—By *Montagu, Robinson, & Watson:* No. 29, Clerkenwell-rd., f., area 3,650 ft., r. 400*l.*, 6,600*l.*; 28, 33, and 35, Marmion-rd, Battersea, u.t. 76 yrs., g.r. 18*l.* 6s., 735*l.*—By *Reynolds & Eason:* 69 and 71, Mansford-st., Hackney, f., r. 70*l.*, 1,310*l.*; 25 to 31 (odd), Dee-st., Poplar, u.t. 79 yrs., g.r. 15*l.*, 850*l.*; 26 to 36 (even), Patriot-sq., Bethnal Green, u.t. 63 yrs., g.r. 21*l.* 15s., 1,400*l.*; 30 and 32, Ropemaker's Fields, Limehouse, f., 205*l.*; four freehold cottages, Chingford Hatch, Chingford, 105*l.*; 34, 36, and 38, Dove-row, Hackney-road, u.t. 12 yrs., g.r., 3*l.* 16s., 200*l.*—By *B. Brown:* 24 to 30 (even), Khartoum-rd., Plaistow, u.t. 89 yrs., g.r. 12*l.*, 570*l.*—By *Martin, Clarke, & Co.:* 6, Station-rd., Anerley, u.t. 80 yrs., g.r. 10*l.* 10s., r. 45*l.*, 400*l.*; 81, Abbott's-rd, Bromley-by-Bow, u.t. 79 yrs., g.r. 5*l.*, 275*l.*

November 28.—By *C. P. Whiteley:* 33 to 45 (odd), Elm Pk., Brixton, f., r. 174*l.*, 2,390*l.*; 61, 63, and 65, Elm Pk., f., r. 72*l.*, 1,020*l.*—By *E. Evans:* 71, Protheroe-rd., Fulham, u.t. 97 yrs., g.r. 5*l.*, 190*l.*; 122, Maygrove-rd., Kilburn, u.t. 76 yrs., g.r. 7*l.* 7s., 300*l.*; 2 to 16 (even), Victory-pl., Old Kent-rd., u.t. 51 yrs., g.r. 30*l.*, 655*l.*; 5, Winscombe-st., Highgate, u.t. 84 yrs., g.r. 5*l.* 5s., 185*l.*

November 29.—By *Rushworth & Stevens:* F.g.r. of 49*l.*, Allcroft-rd., Kentish Town, reversion in 70 yrs., 1,280*l.*; f.g.r. of 21*l.*, reversion in 71 yrs., 540*l.*—By *Newbon & Co.:* 57, Thornhill-sq., Barnsbury, u.t. 51 yrs., g.r. 1*l.* 12s., 585*l.*; 37, Lonsdale-sq., u.t. 15 yrs., g.r. 10*l.*, 150*l.*; 34 and 36, Gifford-st., Caledonian-rd., u.t. 50 yrs., g.r. 12*l.*, 535*l.*; 2 to 12 (even), Sabbarton-st., Canning Town, u.t. 60 yrs., g.r. 18*l.*, 400*l.*; 1a, 1 to 4, Twemlow-ter., Hackney, u.t. 24 yrs., g.r. 70*l.*, r. 198*l.* 6s., 610*l.*; 5, 6, 7, and 8, Elizabeth-pl., Tottenham, u.t. 71 yrs., g.r. 18*l.*, 250*l.*; 47, 51, 53, and 55, Whateley-rd., Dulwich, u.t. 73 yrs., g.r. 26*l.*, r. 122*l.* 4s., 430*l.*; 77, Stroud Green-rd., Finsbury-pk., f., r. 82*l.*, 1,550*l.*—By *Glover & Harrison:* 5, Mann-st., Walworth, u.t. 86 yrs., g.r. 5*l.*, r. 36*l.* 8s., 230*l.*—By *Farebrother, Ellis, Clark & Co.:* F.g.r. of 15*l.*, Victoria-rd., Clapham Common, reversion in 62 yrs., 455*l.*; f.g.r. of 77*l.*, Victoria-rd., reversion in 60 yrs., 2,420*l.*—By *C. C. & T. Moore:* 1, 2, and 3, Sam's Green, Ilford, f., r. 36*l.*, 500*l.*; 24 to 36 (even), Chapman-rd., Victoria-pk., u.t. 72 yrs., g.r 26*l.* 7s. 6d., 550*l.*; 37 and 39, Nicholas-st., Mile End, u.t. 36 yrs., g.r. 6*l.*, r. 52*l.*, 430*l.*; 36 to 58 (even), Sabbarton-st., Poplar, u.t. 58 yrs., g.r. 39*l.* 10s., 1,465*l.*; i.g.r. of 13*l.* 10s., Tredegar-rd., Bow, u.t. 53 yrs., g.r. 1*l.* 10s., 205*l.*; f.g.r. of 18*l.* 18s., Ernest-st., Stepney, 400*l.*; f.g.r. of 21*l.*, Ernest-st., reversion in 73 yrs., 430*l.*; f.g.r. of 20*l.*, Median-rd., Clapton, reversion in 72 yrs., 600*l.*; f.g.r. of 12*l.* 10s., Tredegar-rd., Bow, reversion in 71 yrs., 340*l.*—By *P. & G. Green:* F.g.r. of 60*l.*, Liston-st., &c., Plaistow, reversion in 84 yrs., 1,200*l.*; f.g.r. of 8*l.*, Bishop's-rd., reversion in 84 yrs., 190*l.*—By *Flood & Sons:* 24, Lisson-grove, Marylebone, u.t. 37 yrs., g.r. 20*l.*, r. 80*l.*, 510*l.*; 6 and 7, Sutherland-pl., Bayswater, u.t. 52 yrs., g.r. 34*l.*, 560*l.*—By *A. Prevost & Son:* f.g.r. of 37*l.* 10s., Park-villas, Anerley, reversion in 84 yrs, 775*l.*; f.g.r. of 20*l.*, Rich-st., Limehouse, reversion in 90 yrs., 375*l.*—By *H. J. E. Brake:* ninety-three plots of f. land, Headley, Hants, 150*l.*; one-hundred-and-five plots of f. land, South Wonston, Hants., 389*l.*; enclosures of f. land, 76a. 3r. 31p., 726*l.*; "Twenty Acre Farm," West Hanningfield, Essex, 207a. 1r. 16p., 2,100*l.*; two c. cottages, and 4a. 1r. 18p., 131*l.*; "Church House," and 21a. 2r. 12p., 535*l.*; two f. cottages, 75*l.*;

"Charvilles Farm," 61a. or. 24p., f., 1,000*l.*; f. enclosures of land, 47a. 3r. 8p., 620*l.*; twenty-six plots of f. land, 37*l.*

NOVEMBER 30.—By *Protheroe & Morris:* 3 and 4, York-villas, Mottingham, Kent, u.t. 88 yrs., g.r. 13*l.*, 76*l.*—By *E. Millard;* 33 and 35, Lingham-st., Stockwell, f., 680*l.*; 53 to 67 odd, Lingham-st., f., 2,050*l.*—By *Dolman & Pearce:* 6, Lorne-rd., Finsbury-pk., u.t. 72 yrs., g.r. 6*l.* 6s., r. 37*l.*, 385*l.*; 18 and 20, Lorne-rd., u.t. 72 yrs., g.r. 12*l.* 12s., r. 72*l.*, 715*l.*; 26, Lorne-rd., u.t. 73 yrs., g.r. 6*l.* 6s., r. 38*l.*, 380*l.*; 2, Connaught-rd., 82 yrs., g.r. 7*l.* 10s., r. 40*l.*, 420*l.*; 19 and 21, Scarborough-rd., u.t. 82 yrs., g.r. 11*l.* 10s., r. 76*l.*, 805*l.*; 112, Highgate-rd., Kentish Town, u.t. 62 yrs., g.r. 2*l.*, r. 40*l.*, 420*l.*; 116 and 118, Highgate-rd., u.t. 62 yrs., g.r. 4*l.*, 900*l.*; 103, Leighton-rd., u.t. 46 yrs., g.r. 5*l.* 5s., r. 38*l.*, 360*l.*; 34, Cantlowes-rd., Camden-rd., u.t. 67 yrs., g.r. 8*l.*, r. 42*l.*, 400*l.*: 28, Alwyne-rd., Canonbury, u.t. 51 yrs., g.r. 9*l.*, r. 55*l.*, 520*l.*; 56, Fellow's-rd., Hampstead, u.t. 70 yrs., g.r. 2*l.*, 1,175*l.*; 11, Belsize-av., u.t. 57 and 72 yrs., g.r. 30*l.*, 500*l.*

[*Contractions used in these Lists.*—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a, for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard, &c.]

PRICES CURRENT OF MATERIALS.

TIMBER.		
Greenheart, B.G.	ton	8/0/0 0/0/0
Teak, E.I.	load	10/0/0 16/0/0
Sequoia, U.S.ft.cu		1/10 2/2
Ash, Canada	load	3/5/0 4/10/0
Birch, do.		2/15/0 4/0/0
Elm, do.		4/0/0 5/5/0
Fir, Dantsic, &c.		1/10/0 3/5/0
Oak, do.		2/15/0 4/15/0
Canada		5/10/0 7/0/0
Pine, Canada red		2/10/0 3/0/0
Do. Yellow		3/5/0 5/10/0
Lath, Dantsic, fath		4/10/0 5/10/0
St. Petersburg.		5/0/0 6/10/0
Wainscot, Riga, &c., log		2/15/0 5/0/0
Odessa, crown		2/15/0 5/0/0
Deals, Finland 2nd & 1st std	100	7/0/0 9/0/0
Do. 4th & 3rd		7/0/0 8/0/0
Do. Riga		7/0/0 8/10/0
St. Petersburg, 1st yellow		9/10/0 12/0/0
Do. 2nd yellow		7/10/0 9/0/0
Do. white		8/0/0 10/10/0
Swedish		7/0/0 15/10/0
White Sea		6/10/0 14/0/0
Canada, Pine 1st		22/0/0 26/10/0
Do. do. 2nd		17/0/0 18/0/0
Do. do. 3rd, &c.		7/10/0 10/10/0
Do. Spruce, 1st		8/10/0 10/0/0
Do. do. 3rd & 2nd		6/10/0 7/10/0
New Brunswick		6/0/0 7/0/0
Battens, all kinds		5/0/0 21/0/0
Flooring boards, sq., 1 in. prep. 1st		0/9/6 0/14/6
Do. 2nd		0/7/0 0/11/6
Other qualities—		0/5/0 0/7/0
Cedar, Cuba	ft.	/3 /4
Honduras, &c.		/3 /4½
Mahogany, Cuba		/3 /6
St. Domingo, cargo av.		/3 1/6
Mexican do. do.		/3 /4
Tobasco do. do.		/3½ /6
Honduras do.		/3½ /5½
Box, Turkey	ton	4/0/0 13/0/0
Rose, Rio		7/0/0 18/0/0
Bahia		6/0/0 17/0/0
Satin, St. Domingo		0/0/5 0/1/0

TIMBER (*continued*).		
Satin, Porto Rico		0/0/6 0/1/6
Walnut, Italian		0/0/3½ 0/0/7

METALS.		
Iron—Pig, in Scotland	ton	2/2/6 0/0/0
Bar, Welsh, in London		5/12/6 5/15/0
Do. do. at works in Wales		5/2/6 5/5/0
Do. Staffordshire, in London		6/0/0 6/10/0
COPPER—British cake and ingot		42/0/0 42/5/0
Best selected		42/10/0 42/15/0
Sheets, strong		50/10/0 0/0/0
Chili, bars		39/16/3 40/1/3
YELLOW METAL	lb	0/0/4½ 0/0/4½
LEAD—Pig, Spanish	ton	9/12/6 9/13/9
English com. brands		9/13 9 9/15/0
Sheet, English, 6 lbs. per sq. ft. and upwards		10/15/0 11/0/0
Pipe		11/15/0 0/0/0
ZINC—English sheet	ton	18/10/0 19/0/0
Vieille Montagne		19/10/0 0/0/0
TIN—Straits		61/10/0 62/0/0
Australian		61/15/0 62/5/0
English Ingots		66/10/0 67/0/0
Banca		65/0/0 65/10/0
Billiton		64/10/0 65/0/0

OILS.		
Linseed	ton	20/0/0 20/5/0
Cocoanut, Cochin		27/0/0 27/10/0
Do. Ceylon		24/10/0 0/0/0
Palm, Lagos		25 10/0 0/0/0
Rapeseed, English pale		21/0/0 0/0/0
Do. brown		19/10/0 0/0/0
Cottonseed ref.		18/0/0 18/15/0
Oleine		21/10/0 24/0/0
Lubricating, U.S.		4/0/0 5/0/0
Do. refined		5/0/0 12/0/0
TAR—Stockholm	barrel	1 1/0 0/0/0
Archangel		0 13/0 0/0/0

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 10 a.m. on Thursday.*]

BIRMINGHAM.—For building new cellars, &c., or Messrs. Ansell & Sons, Ltd., at their Aston Brewery, Birmingham. Messrs. Inskipp & Mackenzie, architects, 5, Bedford-row, London, W.C.:—

S. Surnam	£3,697	W. & J. Webb	£3,297
Lee & Son	3,695	J. Bowen	3,217
Jeffery & Son	3,597	J. E. Moorhouse	3,198
Wm. Robinson	3,450	B. Whitehouse	3,141
J. Simons	3,300	J. Barnesley & Son*	3,088

* Accepted.

BLACKPOOL.—For the erection of working-men's club-buildings, Marton, for the Committee. Mr. Frank H. Gorst, honorary architect, 7, Birley-street, Blackpool:—

Excavating, Drainage, and Bricklaying.—George Sparrow	£440	0
" John Hill, Marton, Blackpool*	379	10
Stonemasonry.—Jno. Nickson	228	15
" W. H. Dean & Sons	198	0
" S. & J. Whitehead, Blackpool*	192	0
Slating.—Jno. Kay & Sons, Blackpool*	96	16
Plastering.—Chas. Hodgson, South Shore, Blackpool*	82	10
Plumbing, Glazing, Gasfitting, and Painting.—F. H. Parkinson	126	10
" Jno. Coulston	105	0
" E. P. Smith	100	10
" Dodds & Levick, Blackpool*	99	10
Carpentry and Joinery.—Geo. Smith	431	0
" Amsworth & Bradbury	429	0
" E. Laltonstall	365	0
" J. Nightingall & Co., South Shore, Blackpool*	348	3

* Accepted.

BLACKWOOD (Mon.).—For the erection of "Mason's Arms," Blackwood, South Wales. Mr. E. A. Lansdowne, architect, Newport, Mon.:—

J. C. Richards	£1,950	A. Richards	£1,449 8
J. D. Williams	1,790	J. Jenkins	1,449 0
D. C. Jones & Co.	1,652	Hatherly & Carr	1,435 0
J. Haines	1,596 17	Perkins, Parsons, & Co.	1,396 0
D. Davies	1,596 0	E. Williams, Newbridge*	1,379 17
Davies Bros.	1,500 0		
W. Jones	1,484 0		

* Accepted.

EALING.—For erecting new class-room, &c., at the Girls' School, Ealing Green. Mr. Robert Willey, architect and surveyor, 33, New Bridge-street, E.C.:—

Foord & Sons	£310	Penny & Co.	£298
A. J. Jones	306	Myring	295
W. Down	300	T. Nye, Ealing (accepted)	280

CARDIFF.—For the Girls' Intermediate School, The Parade, Cardiff. Mr. Geo. Thomas, architect and surveyor, Cardiff:—

Frank Ashley	£1,170 5 10	Jones Bros.	£890 0 0
Hatherley & Carr	1,058 0 0	H. Lewis & Sons	853 11 7
D. Davies	1,015 0 0	Cadwalladon & Hockridge	850 0 0
S. Shepton & Sons	1,030 0 0	Fred G. Robins	830 0 0
C. C. Dunn	1,000 0 0	H. Davies* (accepted)	819 17 0
B. Evans	994 0 0		
Knox & Wells	952 0 0		

[All of Cardiff.]

FAREHAM (Hants.).—For the execution of water-supply works (contracts Nos. 1 and 2), for the Local Board. Mr. Walter Butler, surveyor, Fareham:—

Blakey & Pickering	£510 0 0	G. Darby	£343 15 0
B. Cooke & Co.	460 0 0	H. Clark, Fareham*	317 17 3
Hughes, Sutton, & Digby	370 0 0		

* Accepted.

[Surveyor's estimate, £340.]

FINEDON (Northants).—For the erection of new shoe factory and currying shops, for Mr. J. T. Hawthorne. Messrs. Mosley & Anderson, architects and surveyors, Goodyear Chambers, Northampton. Quantities by architects:—

Dunham & Bass	£1,275	Freeman & Sons	£1,112
A. Barlow	1,219	T. Chapman	1,052
R. Marriott	1,193	F. Henson, Finedon*	990
H. Martin	1,174	A. J. Ball	940
F. Johnson & Son	1,137		
Hacksley Bros.	1,137		

* Accepted.

HANLEY (Staffs.). — Accepted for the execution of street-improvement works (7 contracts). Mr. George Lobley, Borough Engineer, Town Hall, Hanley:—

	Grove-place.	Clive-street.	Wellesley-street.
Smith & Taylor, Stoke-on-Trent	£235 1 7	£269 10 5	£482 11 4

	White-head-st.	Back Garfield-st.	Back Hawesmore-st.	Back Gilman-st., West.
George Wild, Hanley	£43 16	£52 19	£64 3	£113 15

HEDNESFORD.—For alterations to present schools and erection of new infants' department at Five Ways, Hednesford, for the Cannock School Board. Messrs. Bailey & McConnal, architects, Walsall:—

A. Davies	£5,065 0	E. Goodall	£4,514 0
T. Kent	4,920 12	W. Hopkins	4,489 0
A. F. Whittome	4,739 0	A. Williams	4,361 15
W. B. Anderson	4,648 0	J. Mallin	4,358 0
J. Dallow	4,605 0	J. Guest & Son	4,225 0
C. Lowe & Sons	4,602 0	T. Mason, Hednesford*	4,108 0
C. Linford	4,575 0		
A. Lynex	4,536 0		

* Accepted subject to the approval of the Education Department.

HIGH ONGAR (Essex).—For the erection of school buildings, for the School Board. Mr. Mawhood, architect, 2, Market-road, Chelmsford:—

Lemon	£687 0	F. Noble	605 15
W. Fincham	686 0	F. Johnson	578 0
H. Barlow	680 0	W. Wade	573 0
J. Gozzett	642 0	E. West, Chelmsford*	565 0

* Accepted.

KETTERING.—For alterations and additions to shoe factory, for Messrs. Wilson & Watson. Messrs. Mosley & Anderson, architects and surveyors, Goodyear Chambers, Northampton. Quantities by architects:—

Marriott	£2,010 0	Dunham & Bass	£1,845 0
J. Norris	1,963 10	J. W. Hart	1,830 0
Hacksley Bros.	1,963 0	W. Clow	1,742 0
C. & F. Henson	1,950 0	G. Wilson	1,740 0
G. V. Henson	1,930 0	Kettering Co-operative Building Society, Ltd.*	1,701 0
A. Barlow	1,895 0		

[Architects' estimate, £1,780.]

* Accepted.

KINGSTON.—For boundary-walls for the Kingston Cemetery, for the Burial Board. Mr. Edward Carter, surveyor, 55, Clarence-street, Kingston:—

W. H. Gaze	£1,698	C. E. Skinner	£1,444
G. F. Havell	1,680	W. Cunliffe	1,430
Dolling & Co.	1,653	Wm. Adamson	1,319
Oldridge & Sons	1,651	Piller & Sons (accepted)	1,221
T. H. Jarvis	1,597		

LONDON.—For alterations and additions, Nos. 3 and 5, Montpelier-road, Peckham. Mr. James Warne, architect:—

Jackson	£400	Dawes	£265
Duke	305	Coats	255
Ditcher	275	Simpson & Cove (accepted)	239
Evans	270	King & Son	230

LONDON.—For alterations and additions at 18, High-street, Peckham. Mr. E. J. Strevens, architect:—

Tyreman	£359	Pugh	£330
Garrett	349	Simpson & Cove	299
Sonnie	339	King & Son (accepted)	285

LONDON.—For making-up and paving Adeney-road, Sec. II., and Queen's Club Gardens, Sec. I., for the Vestry of Fulham. Mr. Charles Botterill, Engineer and Surveyor:—

	Adeney Road, Sec. II.							Queen's Club Gdns. Sec. I.
	Roadway.	York.	Adamant.	Victoria.	Indurated.	Imperial.	Sharp Silicated.	Road and Footways.
Imperial Stone Co.	—	—	—	—	—	182	—	—
W. H. Gibbs	—	—	—	—	—	—	—	260
Victoria Stone Co.	—	—	—	197	166	—	—	—
S. Hudson	388	250	—	203	—	197	175*	—
		260	—	220	—	205	200†	—
J. Mears	380	—	—	—	—	—	—	—
Wimpey & Co.	396	248	180	—	180	—	—	376
Nowell & Robson	353	253	—	—	—	—	—	323
Robertson & Grant	439	257	—	219	—	195	—	—
Greenham	350	—	—	—	—	—	—	350

* If roadway tender is accepted.
† If roadway tender is not accepted.

LONDON.—Accepted for work at 5, Harrington-gardens, South Kensington. Mr. Robert Willey, architect and surveyor, 33, New Bridge-street, E.C.:—

Decorating.—Holliday & Greenwood £216
Sanitary.—Dickens, Ealing 248

LONDON.—Accepted for new larder and scullery at the Poplar Union. Messrs. Clarkson, architects, 136, High-street, Poplar:—

J. J. Smith, 97, Queen Victoria-street £371

LONDON.—For providing enclosures for hats and cloak around the corridors of the boys' and girls' departments of the Bath street School, City-road, for the School Board for London:—

Calnan & Co.	£660	Johnson & Co.	£375
Clarke & Bracey	598	McCormick & Sons*	367
Staines & Son	414		

* Accepted.

LONDON.—For providing a covered playground for the boys department of the Broad-street School, Ratcliff, for the School Board for London:—

J. Edmunds	£185	Hearle & Farrow	£146
Staines & Son	154	M. Calnan & Co.	142
W. Gregar & Son.	149	D. Gibb & Co.*	99

* Accepted.

LONDON.—For forming windows and partitions in the Infants department of the Trinity-place School, Hoxton, and for painting the interior of the school at the same time, for the School Board for London:—

White & Son	£218 1	Gavins Bros.	£195 0
W. Martin	217 15	B. E. Nightingale	191 9
McCormick & Sons	198 0	Johnson & Co.	183 0
C. Miskin	195 0	Grover & Son (accepted)	182 15

LONDON.—For adapting the house, No. 45, Southwark Park-road, situated on the south side of the "Alma" site, Bermondsey, so that it may be used for Housewifery classes, for the School Board for London:—

J. Frampton	£690	H. Line	£499
W. & H. Castle	679	Leeks & Hooker	450
J. Marsland	548	Rice & Son (accepted)	398

LONDON.—For providing a new covered playground for the Girls' department of the Hamond-square School, at the entrance from Ivy-street, for the School Board for London:—

E. G. Browning & Co.	£190	Kirby & Chase	£161
Grover & Son	179	Stevens Bros.*	157
McCormick & Sons	169		

* Accepted.

LONDON.—For removing the old gallery and providing a new Kindergarten gallery in the Babies' room of the Single-street School, Bow Common-lane, for the School Board for London:—

James Edmunds	£196 0	S. H. Cornfield	£84 0
W. Gregar & Son	114 0	D. Gibb & Co.	66 10
Staines & Son	98 0	M. Calnan & Co.*	54 5

* Accepted.

LONDON.—For erecting a boiler-house in connexion with the new heating apparatus proposed to be provided at the Waldron-road School, Tooting, for the School Board for London:—

Holloway Bros.	£357	H. Brown, Earlsfield*	£245
R. E. Williams & Sons	289		

* Accepted.

LONDON.—For providing and fixing a complete system of low-pressure hot-water apparatus for warming the whole of the Chatham-gardens School, Britannia-street, Hoxton:—

Messinger & Co.	£300 0 0	Purcell & Nobbs	£233 0 0
Comyn Ching & Co.	295 10 0	W. Summerscales & Sons, Ltd.*	220 0 0
Maguire & Son	281 8 6	G. Davis	270 0 0
W. G. Cannon & Sons	267 7 0	J. & F. May	186 0 0
		J. F. Clarke & Sons	161 10 0
		Z. D. Berry & Sons*	159 0 0

* Accepted.

LONDON.—For providing low-pressure hot-water apparatus for heating six class-rooms, and the corridors on the ground floor (infants' department), at the Waldron-road School, Tooting:—

Wilson Engineering Co., Ltd.	£248 6 6	Purcell & Nobbs	£183 0 0
J. Wontner Smith, Gray, & Co.	187 0 0	R. H. & J. Pearson, Ltd.	176 10 0
J. & F. May	186 0 0	G. Davis	170 0 0
W. G. Cannon & Sons	185 8 6	J. F. Clarke & Sons	161 10 0
		Z. D. Berry & Sons*	159 0 0

* Accepted.

LONDON.—For providing and fixing low-pressure hot-water apparatus for warming two class-rooms on the ground, first, and second floors of the enlargement of the St. Leonard's-road School, Bromley:—

W. G. Cannon & Sons	£155 10	J. Wontner Smith, Gray & Co.	£129 15
Russell & Co.	142 10	Z. D. Berry & Sons	124 0
J. Gray	142 0	Fraser & Fraser, Ltd.*	117 0
J. & F. May	136 0		

* Accepted.

LONDON.—For increasing the accommodation of the Droop-street School, Queen's Park Estate, by 66 places, and for other work, for the School Board for London. Mr. T. J. Bailey, Architect:—

		For brick-work in cement, add
Lathey Bros.	£9,352	£120
Holloway Bros.	9,140	125
W. King & Son	9,080	135
Stimpson & Co.	9,016	135
Foster & Dicksee	8,880	110
E. Lawrance & Sons	8,823	110
W. Goodman	8,700	250
G. E. Wallis & Sons	8,468	228
W. M. Dabbs	8,374	90
Treasure & Son	8,250	148
J. & M. Patrick	8,177	199
C. Cox, Hackney, N.E. (accepted)	7,940	101

LONDON.—For providing a new system of drainage at the Kilburn-lane School, Kensal Green, and for constructing inspection chambers, for the School Board for London. Mr. T. J. Bailey, Architect:—

Knight & Son	£1,497 0	G. Foxley	£1,246 0
Perkins & Co.	1,420 0	G. Lyford	1,157 0
Lawrance & Sons	1,348 0	King & Sons	1,132 10
W. Hammond	1,295 0	R. P. Beattie, Victoria-street (accepted)	1,021 0
Lathey Bros.	1,264 0		

LONDON.—For the provision and erection of three new temporary iron buildings on the Grove Vale site, for the School Board for London:—

Francis Morton & Co., Ltd.	2,186	Croggon & Co., Ltd.	£1,750
E. C. & Keay, Ltd.	1,780	D. Charteris	1,740
John Lysaght, Ltd.	1,750	T. Cruwys, Camden Town (accepted)	1,700

LONDON.—For providing and fixing low-pressure hot-water apparatus for warming the enlargement of the Ecclesbourne-road School, Essex-road, Islington:—

Rosser & Russell, Ltd.	£356 0	J. F. Clarke & Sons	£238 0
Maguire & Son	352 10	J. C. & J. S. Ellis, Ltd.	232 10
Russell & Co.	274 10	W. G. Cannon & Sons	231 19
J. & F. May	267 0	Z. D. Berry & Sons, Westminster*	214
Wontner Smith, Gray & Co.	261 10		

* Accepted.

LONDON.—For carrying out alterations to the Drury-lane School for the purpose of adapting it as a Day Industrial School, for the School Board for London. Mr. T. J. Bailey, architect:—

Lawrance & Sons	£2,140	Calnan & Co.	£1,986
D. Charteris	2,046	McCormick & Sons	1,932
J. Harvey	2,038	B. E. Nightingale *	1,798

* Accepted.

LONDON.—For erecting divisional offices, and cookery and laundry centres on the "Ben Jonson" site, Stepney, and for other works, for the London School Board. Mr. T. J. Bailey, Architect:—

		For brick-work in cement, add
A. Reed & Son	£6,427	£115
D. & W. Pattinson	6,359	101
G. & S. Williams & Son	6,320	107
W. Gregar & Son	6,328	90
J. Shillitoe & Son	6,250	106
G. E. Wallis & Sons	6,191	84
J. & M. Patrick	6,100	106
C. Cox	5,978	95
E. Lawrance & Sons, Wharf-road, City-road (accepted)	5,899	95

LONDON.—For the erection of the Battersea baths. Mr. Rowland Plumbe, architect, 13, Fitzroy-square, W.:—

Edwards & Medway	£5,445	Perry & Co.	£4,780
Harris & Wardrop	5,443	W. Goodman	4,715
Downs	5,350	Holloway, Bros.	4,699
Lawrence	5,103	W. Shepherd	4,696
Marsland	5,055	B. E. Nightingale	4,639
Wallis	4,999	H. & F. Higgs	4,615
Patman & Fotheringham	4,802	Whitehead&Co.(accepted)	4,475
Dorey & Co.	4,801		

LONDON.—Accepted for remodelling 57, Berners-street, W. Mr. Delissa Joseph, architect, 17 and 18, Basinghall-street, E.C.:—
H. Hanks £1,925 18 0

LONDON.—For alterations, &c., to 85 and 86, Lower-marsh, for Messrs. Amies & Sons. Mr. Robert Willey, architect and surveyor, 33, New Bridge-street, E.C.:—

Carmichael	£425	Meller (amended and accepted)	£212
Salter	415	Meller (accepted for fittings)	101
Holliday and Greenwood	340		

LONDON.—Accepted for pulling down and rebuilding party-wall between 18 and 19, Newgate-street, E.C., for Mr. Augustus Leney:—
J. J. Smith, 97, Queen Victoria-street, E.C. £525
[No competition.]

LONDON.—For the erection of new offices of the Commissioners of Sewers in Basinghall-street, E.C. Mr. D. J. Ross, engineer. Quantities supplied by Messrs. Franklin & Anderson:—

Allen & Co.	£42,890	Gough	£36,880
J. O. Richardson	41,546	Groves & Sons	36,780
Balaam	41,150	Johnson	36,173
Downs	40,980	Shillitoe	36,000
Nightingale	39,990	Mowlem	35,902
Patman	39,150	Kellett	35,832
Holliday & Co.	38,888	Higgs	35,500
Passell & Co.	37,400	Perry & Co.	34,763
Charteris	37,352	Lawrence & Co.	33,164
Holloway	37,300	Chessum & Son	32,266
Kirk & Randall	30,890		

LONDON.—For new Baptist Chapel, Ilderton-road, Bermondsey, S.E. Mr. Geo. Baines, architect. Quantities supplied by Messrs. J. E. Goodchild & Son:—

Halliday	£5,934 5 3	Scott	£4,813 3 2
Nightingale	5,122 0 0	Cheessman & Sons	4,765 0 0
Leng	5,173 0 0	Balaam	4,760 0 0
Greenwood	4,850 0 0	Batley, Son, & Holness	4,737 0 0
Holloway	4,830 0 0		
J. O. Richardson	4,824 0 9		

LONDON.—For the erection and completion of residences at Honor Oak Park, S.E., for Captain Griffith. Messrs. Weatherall & Green, surveyors:—

J. Smith & Sons	£3 243	J. O. Richardson	£2,864
Horton	2 998		

LONDON.—For extension to Cobden sub-station electric building, for the St. Pancras Vestry. Prof. Hy. Robinson, Engineer:—

Mowlem	£284 0 10	J. O. Richardson	£226 12 5
Killingback	244 7 5	Steed	208 16 9

MELTON MOWBRAY.—For sewage disposal works on the International system, extension of main sewers, and new flood-gates for the Melton Mowbray Local Board, according to drawings, specifications, and quantities prepared by Mr. Edmund Jeeves Surveyor to the Board:—

Contracts Nos. 1 and 2.—Sewage Disposal Works and Alterations and Additions to Pumping Station.

W. Cunliffe	£3,238 0 0	E. Clarke	£2,615 0 0
H. H. Barry	2,990 7 10	J. Mason	2,611 7 6
J. R. Wartnaby	2,851 0 0	S. F. Halliday	2,575 9 6
C. Barnes	2,706 0 0	T. & H. Denman	2,513 0 0
H. Vickers	2,694 9 0	Moss & Son, Loughborough *	2,462 0 0
S. W. Pattinson	2,686 14 0		
Siddons & Freeman	2,637 0 0		

Contract No. 3.—Extension of Main Sewer on the Burton- and Dalby-roads.

S. W. Pattinson	£757 12 6	J. Mason	£631 9 0
Moss & Son	750 0 0	Siddons & Freeman	615 0 0
S. F. Halliday	747 3 6	H. H. Barry	584 17 0
W. Stone	715 5 0	H. Vickers	577 12 0
W. Cunliffe	715 0 0	D. M. Sykes	538 19 0
J. R. Wartnaby	681 0 0	E. Clarke, Melton Mowbray *	25 0
T. & H. Denman	670 0 0		
C. Barnes	647 0 0		

Contract No. 4.—New Flood-gates on River.

H. Vickers	£306 10 0	E. Clarke	225 0 0
J. R. Wartnaby	299 0 0	Siddons & Freeman	223 0 0
Goddard, Massey, & Warner	275 18 8	T. & H. Denman	219 10 0
Moss & Son	205 0 0	J. Mason	209 7 0
W. Cunliffe	260 0 0	Richards & Son	207 13 0
C. Barnes	259 0 0	S. W. Pattinson, Ruskington *	195 15 6
S. F. Halliday	253 0 0		

Accepted.

MORTLAKE.—For the erection of a new Police Station at Mortlake, for the Receiver for the Metropolitan Police District. Mr. John Butler, Architect. Quantities by Mr. W. H. Thurgood:—

Hart	£3,147	Richardson	£2 759
Sweet & Loder	3,071	Grover	2,758
Perry	2,797	Ansell	2,747
Aviss	2,786	Messum	2,684
Higgs & Hill	2,784	Lathey	2,633
Scrivenor	2,770		

NORTHAMPTON.—For the erection of Wesleyan school-chapel, Queen's Park. Mr. H. H. Dyer, architect, Sheep-street, Northampton. Quantities by the architect:—

	Brick.	Stone.
G. J. Fisher	£600 0	£635 0
W. J. Flavell	580 0	580 0
G. Bransom & Son	570 0	596 0
W. Throssell	560 0	574 0
N. Adams	560 0	577 0
J. M. Panting	550 0	579 0
J. Garrett	549 0	579 10
A. P. Hawtin	549 0	577 12
J. Dunckley	549 0	574 10
Wilford & Judkin	545 10	570 0
W. Heap	545 0	585 0
J. Woodford & Son	530 0	565 0
A. J. Chown	524 10	544 10
G. W. Souster	517 10*	535 10

[All of Northampton.]
* Accepted.

OLDHAM.—Accepted for the construction of sewers, &c., Uppermill (3 schemes), for the Saddleworth Rural Sanitary Authority. Mr. Theo. S. M'Callum, C.E., 4, Chapel Walks, Manchester:—
H. Fotherby & Son, 5, St. James's Hall, Burnley £9,500

RUSHDEN (Northants.).—For additions to shoe factory, for Messrs. W. Claridge. Messrs. Mosley & Anderson, architects and surveyors, Goodyear-chambers, Northampton. Quantities by architects:—

	Section 1.	Section 2.	Total.
H. Sparrow	£1,150 0	£270	£1,420 0
Dunham & Bass	1,106 0	230	1,336 0
H. Martin	1,125 0	255	1,380 0
Hacksley Bros.	1,070 0	256	1,326 0
F. Johnson & Son	1,090 0	220	1,310 0
Freeman & Son	1,050 0	242	1,292 0
G. Henson	1,063 0	223	1,286 0
T. Wilmott, jun.	1,036 10	237	1,273 10
T. Swindall	1,019 0	242	1,261 0
C. Bayes & Son	1,010 0	245	1,255 0
Marriott, jun.	1,005 0	230	1,233 0
T. & C. Berrill, Irchester*	969 0	232	1,201 0

* Accepted.

RUSHDEN (Northants.).—For additions to shoe factory for Mr. B. Ladds. Messrs. Mosley & Anderson, architects and surveyors, Goodyear Chambers, Northampton. Quantities by architects:—

T. Swindall	£288 17 6	R. Marriott	£275 0 0
T. & C. Berrill	287 0 0	H. Sparrow, Rushden (accepted)	269 10 0
T. Wilmott, jun.	280 0 0		

WALSALL.—For the erection of class-rooms, &c., Ablewell-street, for the Trustees of Wesley Chapel. Messrs. Bailey & McConnal, architects, Bridge-street, Walsall:—

W. Wistance	£1,558 0 0	J. Guest & Son	£1,400 0 0
S. Wootton	1,540 0 0	Walsall Builders' Supply Co.	1,395 17 6
W. Kendrick	1,510 0 0	R. M. Hughes, Birmingham *	1,377 0 0
W. Hopkins	1,450 0 0		
J. Mallin	1,424 0 0		
Lane Bros.	1,413 0 0		

* Accepted.

WALTHAMSTOW.—For laying concrete flags in Ravenswood-road, Prospect Hill, Eldon-road, and Truro-road, for the Walthamstow Local Board. Mr. G. W. Holmes, Engineer and Surveyor:—

	s. d.		s. d.
W. Griffiths	5 0	Jones' Annealed Concrete Co.	4 5
Bloomfield	5 0	Patent Indurated Stone Co., Ltd. (accepted)	4 5
H. Crane	4 11	MacLeod*	4 4
Imperial Stone Co.	4 10		
J. Reeves	4 5		

* For two streets only.

WARE.—For sundry works to be done in reconstructing the drainage and sanitary arrangements in the infirm wards, and building new bath and closet blocks at the Ware Union Workhouse, for the Guardians of the Poor. Messrs. Newman & Newman, architects and surveyors, 31, Tooley-street, London Bridge. Quantities by Mr. W. T. Farthing, 46, Strand, London, W.C.:—

Rayment & Son	£2,460	Thomas Rowley	£2,289
Munday & Son	2,371	Henry Norris	2,210
L. & W. H. Patman	2,350	W. Lawrence	2,162
Thomas Hunt	2,295	Solden Hipwell, Wisbech *	2,100

* Accepted

WREXHAM.—For the completion of Vernon- and Gerald-streets, for the Wrexham Urban Authority. Mr. J. W. M. Smith, Borough Surveyor, Wrexham:—

	Vernon-street.	Gerald-street.
Wm. Rogers	£250 0 0	£96 0 0
Jas. Hughes	240 0 0	110 0 0
A. Johnson	209 0 0	98 0 0
Davies Bros. (accepted)	178 18 5	69 17 5

[All of Wrexham.]

W. H. Lascelles & Co.,

121, BUNHILL ROW, LONDON, E.C.

Telephone No. 270.

HIGH-CLASS JOINERY,
LASCELLES' CONCRETE

Architects' Designs are carried out with the greatest care.

CONSERVATORIES,
GREENHOUSES,
WOODEN BUILDINGS,
Bank, Office, & Shop Fittings.
CHURCH BENCHES & PULPITS.

ESTIMATES GIVEN ON APPLICATION.

TO CORRESPONDENTS.

J. R. D.—G. G. (below our limit).—J. B. (amounts should have been stated).

We are compelled to decline pointing out books and giving addresses.

NOTE.—The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.

We cannot undertake to return rejected communications.

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

SUBSCRIBERS in LONDON and the SUBURBS, by prepaying at the Publishing Office, 19s. per annum (or 4s. 9d. per quarter), can ensure receiving "The Builder," by *Friday Morning's Post.*

TERMS OF SUBSCRIPTION.

"THE BUILDER" is supplied DIRECT from the Office to residents in any part of the United Kingdom, at the rate of 19s. per annum PREPAID. To all parts of Europe, America, Australia, New Zealand, India, China, Ceylon, &c., 26s. per annum. Remittances (payable to DOUGLAS FOURDRINIER) should be addressed to the publisher of "THE BUILDER," No. 46, Catherine-street, W.C.

THE BATH STONE FIRMS, Ltd.
BATH,
FOR ALL THE PROVED KINDS OF
BATH STONE.
FLUATE, for Hardening and Preserving Calcareous Stones and Marbles.

DOULTING STONE.
CHARLES TRASK & SONS,
DOULTING, SHEPTON-MALLET.
London Agent:
E. A. WILLIAMS, 16, Craven-st., Strand, W.C.

HAM HILL STONE:
The attention of Architects is specially invited to the durability and beautiful COLOUR of this material. Quarries well opened. Quick despatch guaranteed. Stonework delivered and fixed complete. Samples and estimates free. Address, The Ham Hill Stone Co., Norton, Stoke-under-Ham, Somerset. London Agent: Mr. E. A. Williams, 16, Craven-st., Strand, W.C. [ADVT.

Asphalte.—The Seyssel and Metallic Lava Asphalte Company (Mr. H. Glenn), Office, 42, Poultry, E.C.—The best and cheapest materials for damp courses, railway arches, warehouse floors, flat roofs, stables, cow-sheds and milk-rooms, granaries, tun-rooms, and terraces. Asphalte Contractors to the Forth Bridge Co. [ADVT.

SPRAGUE & CO.,
PHOTOLITHOGRAPHERS,
4 & 5, East Harding-street,
Fetter-lane, E.C. [ADVT.

QUANTITIES, &c., LITHOGRAPHED accurately and with despatch.
METCHIM & SON, 20, Parliament-st. S.W.
"QUANTITY SURVEYORS' TABLES AND DIARY, For 1895, price 6d. post 7d. In leather 1/- Post 1/1 [ADVT.

SLATES. SLATING. TILING.
Roberts, Adlard, & Co.
47, EASTCHEAP, CITY.
SLATE SLAB WORKS.

EUREKA GREEN SLATES.
SOLE IMPORTERS.

94.

hould have

nd giving

ers read at

which have

ers should
atisements
d to THE

RBS, by
nnum (or
Builder,"

.

o residents
per annum
ralia, New
emittances
ddressed to
eet, W.C.

, Ltd.
or
rving

E.
s,
LLET.
d, W.C.

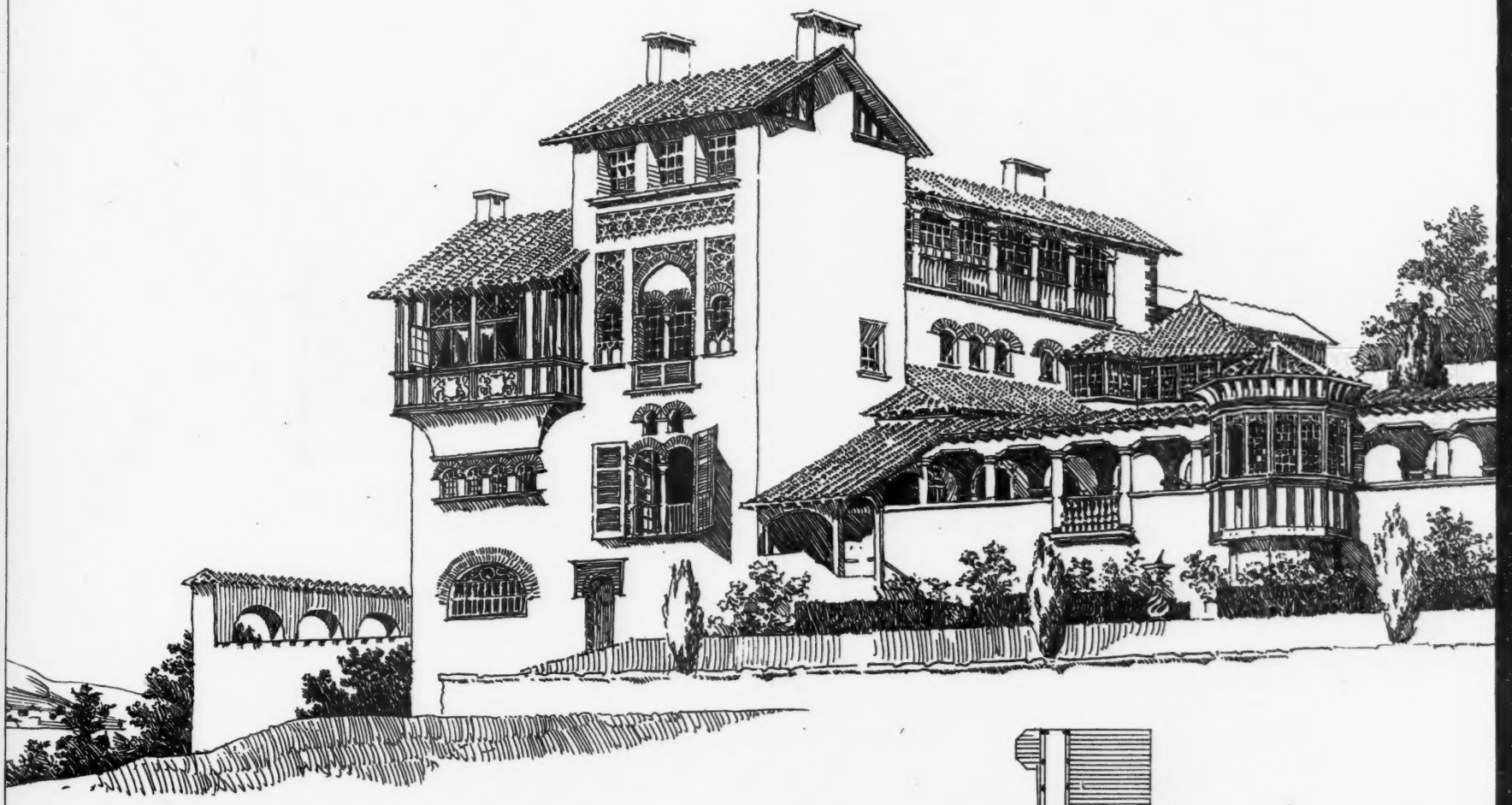
specially
COLOUR
Quick
delivered
ates free.
, Stoke-
Mr. E.A.
[ADVT.

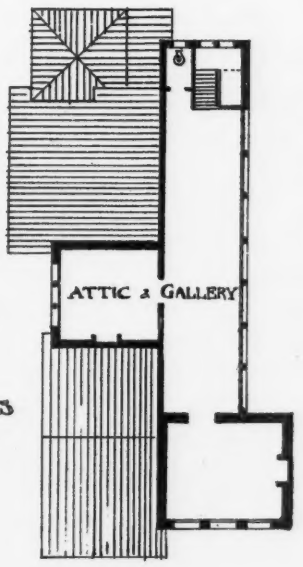
ic Lava
ffice, 42,
erials for
e floors,
-rooms,
Asphalte
[ADVT.

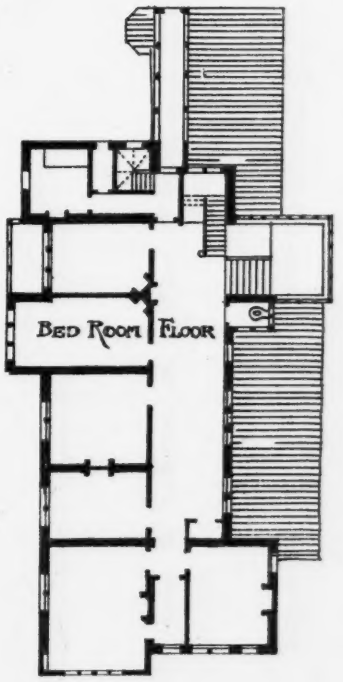
[ADVT.

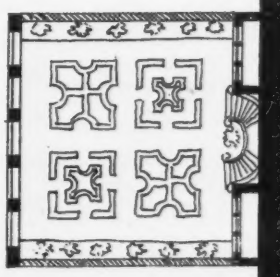
APHED
st. S.W.
DIARY,
/1 [ADVT.

LING.
& CO.
KS.
EEN









Scale of 10 5 0 10 20 30 40 50 60

A · COUNTRY · RETREAT

WITH · TILED ROOFS AND ROUGH CAST WALLS

AND · N · PRENTICE · ARCHT.

Royal Academy Exhibition, 1894.

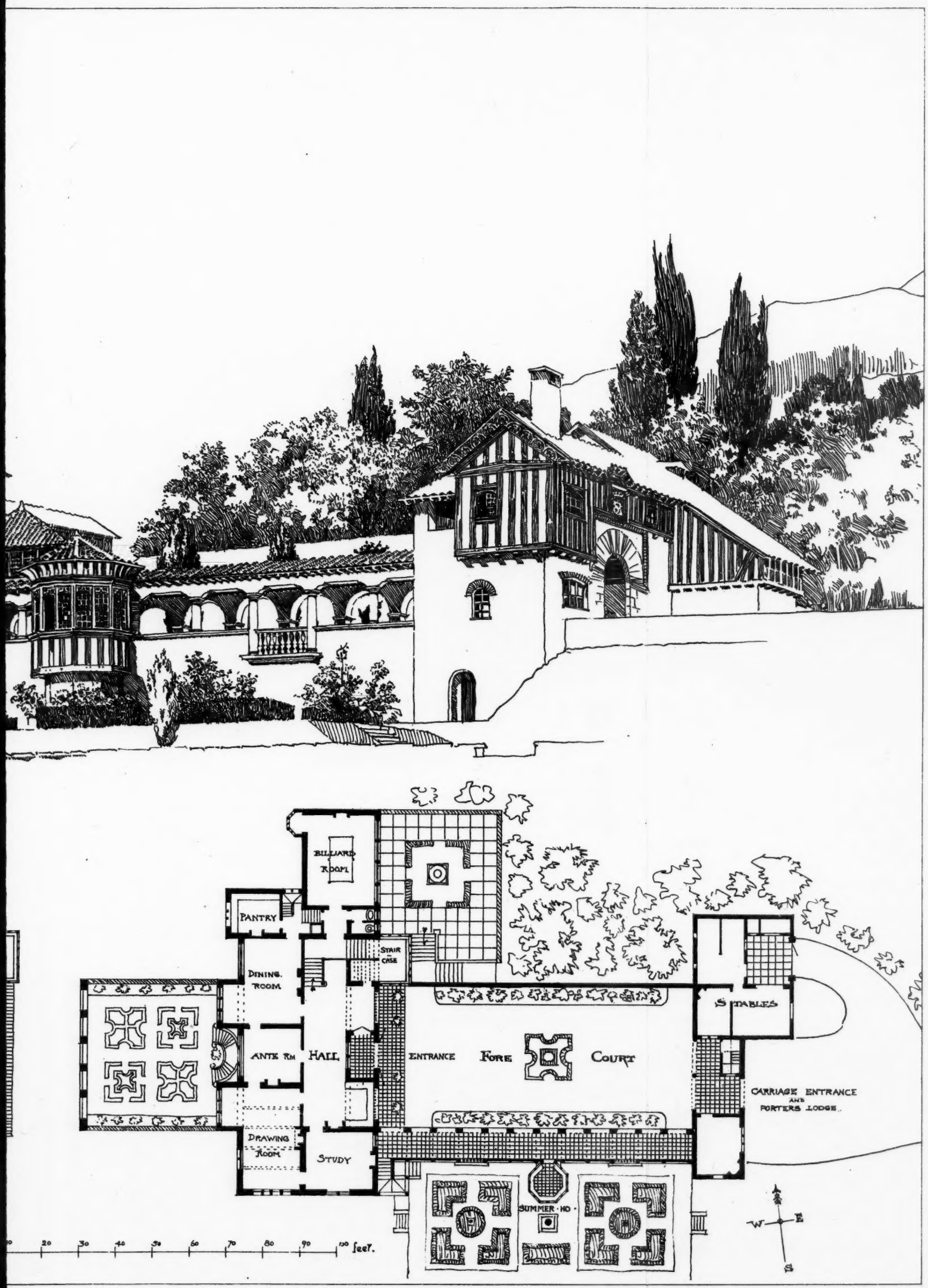
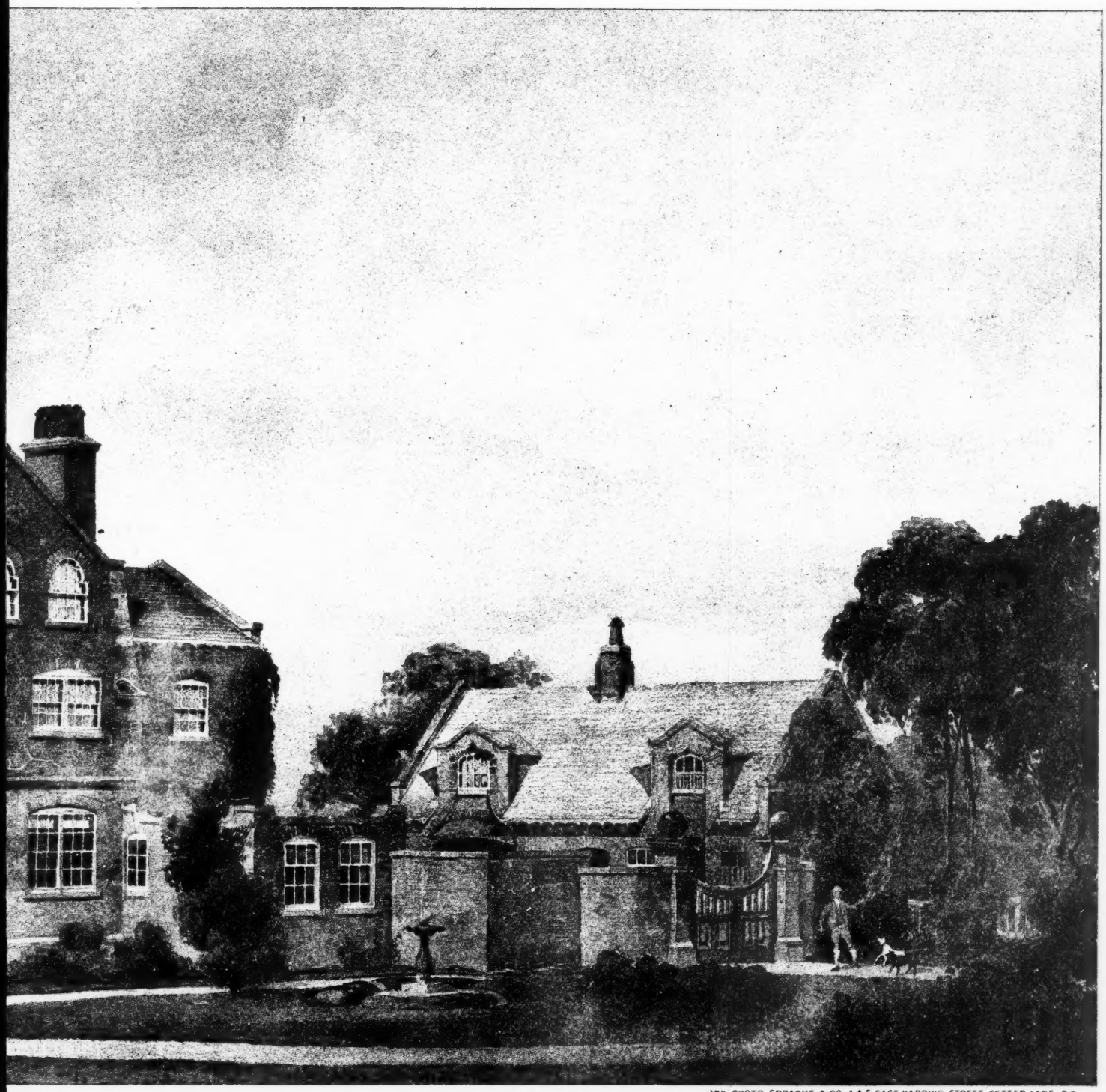


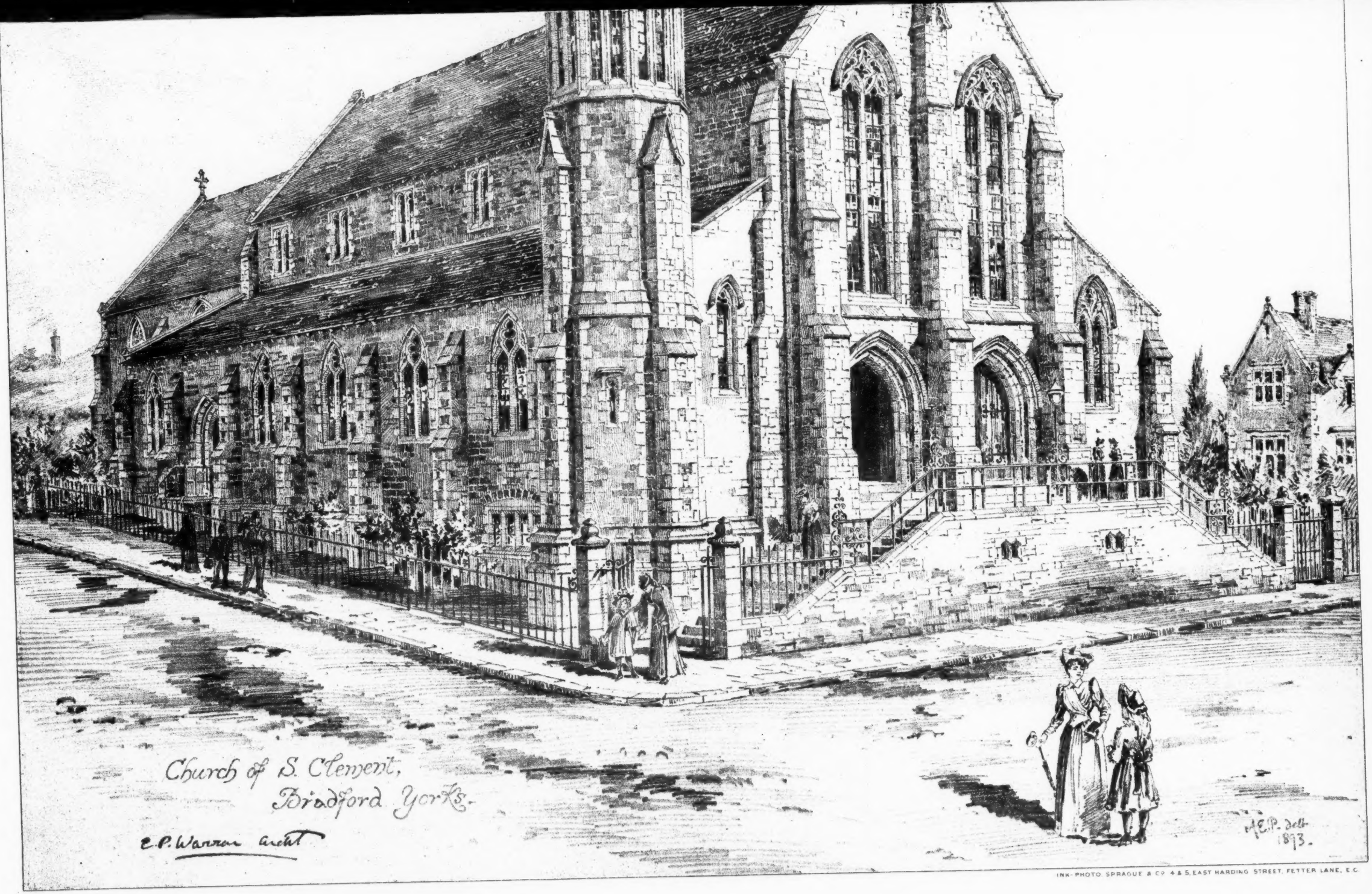
PHOTO-LITHO. SPRAGUE & Co 4 & 5 EAST HARDING STREET FETTER LANE E.C.

"ONE ASH," LOUGHBRO'.—Mr. Larner Sugden, F.R.I.B.A., Architec



INK-PHOTO. SPRAGUE & Co 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

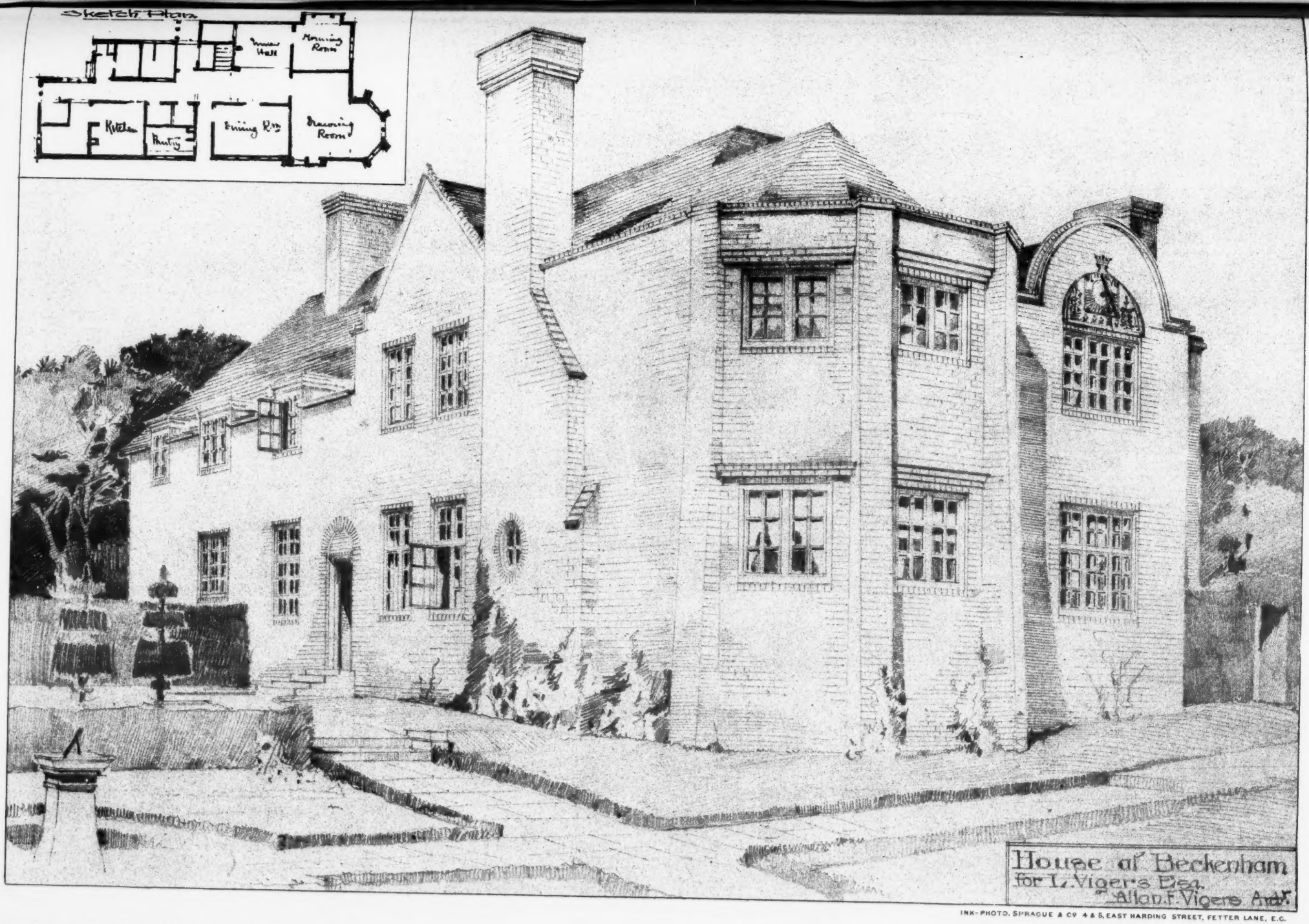
LARNER SUGDEN, F R I.B A., ARCHITECT.



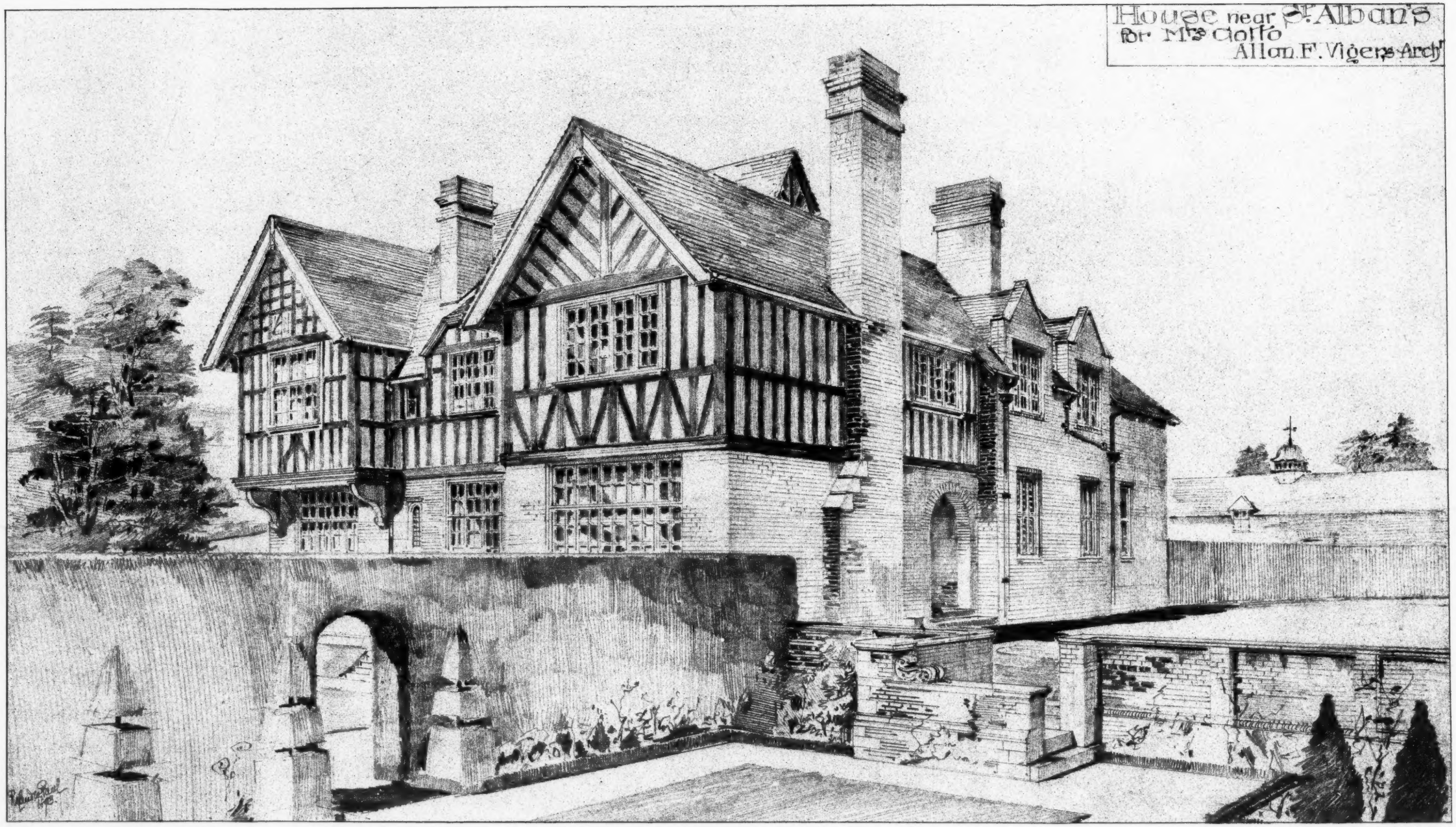
INK-PHOTO. SPRAGUE & Co 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

Royal Academy Exhibition, 1894

DEPT.
Scienc
nt.


Sketch Plan
Morning Room
Drawing Room
House at Beckenham
for L. Vigers Esq.
Allan F. Vigers Archt.
INK-PHOTO. SPRAGUE & Co 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

Royal Academy Exhibition, 1894.



INK-PHOTO. SPRAGUE & Co 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

Royal Academy Exhibition, 1894.